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TOWN OF CARMAN

Background Study To The Development Plan

BACKGROUND STUDY

CARMAN DEVELOPMENT PLAN

Prepared by:
Municipal Planning Branch
Municipal Affairs
February, 1988

89-05892/

ACKNOWLEDGEMENTS

During the preparation of this background study, much assistance was obtained from a number of agencies and numerous government departments. However, mention should be made of the following agencies or departments that contributed directly to this project.

Town of Carman Administration
Town of Carman Engineering Department
Department of Economic Development
Department of Highways
Department of Historic Resources
Department of Environment
Municipal Assessment Branch
Municipal Advisory and Financial Services Branch

In addition, the reports prepared by Reid Crowther and Partners Ltd. regarding transportation and services is acknowledged. This report, along with reports produced by the Department of Municipal Affairs and the Federal Department of Regional Economic Expansion are summarized in this study and are available if more detailed information is desired.

PREFACE

In February of 1986, Carman Town Council by resolution, requested the Municipal Planning Branch to prepare a Development Plan for the Town. The request was made under the terms of a Project Agreement between the Town and the Municipal Planning Branch. The authority to prepare a Carman Development Plan was granted under Section 24 of the Planning Act.

The purpose of the Development Plan is as stated in Section 25(1) of The Planning Act, which generally states that the purpose is to guide future growth and development. To do this Council expressed the desire to examine present development trends and take notice of the social and economic forces influencing housing, industrial development, and other elements of the development process. An extensive data base is required for the review of all factors involved in the development of the Town and this Background Study was prepared for that purpose.

The formulation of the Carman Development Plan will depend on the input of the local citizens as well as Council. To be effective, public participation must be actively involved in the plan preparation and not just reacting to proposals of the planning staff or the local Town Council. In order that this contribution be meaningful, it is necessary that both the citizens and Council be provided with the basic information upon which this input can be based.

Thus, the Development Plan will consist of two parts. This, The Background Study, will be the first part and it will provide the background information and identify the problems and concerns. The second part, The Development Plan, will provide the solutions to the concerns identified and establish policies for the future development of the Town of Carman.

TABLE OF CONTENTS

	PAGE
ACKNOWLEDGEMENTS	i
PREFACE	ii
EXECUTIVE SUMMARY	1
INTRODUCTION	6
CHAPTER I - COMMUNITY BACKGROUND	9
1.1 Location and Physical Characteristics	9
1.2 Historical Background	10
1.3 Heritage Resources	11
1.4 Summary and Concerns	13
CHAPTER II - FLOODING	14
2.1 Introduction	14
2.2 Flood Diversion Studies	14
2.3 Summary and Concerns	15
CHAPTER III - LAND USE ANALYSIS	16
3.1 Introduction	16
3.2 General Land Use Pattern	16
3.3 Fringe Development	18
3.4 Residential	19
3.5 Commercial	23
3.6 Industrial	24
3.7 Institutional	24
3.8 Parks and Open Space	25
3.9 Rights-of-Way	26
3.10 Vacant Land	26
3.11 Agricultural/Non-Urban	26
3.12 Comparative Land Use	26
3.13 Summary and Concerns	28

TABLE OF CONTENTS (Continued)

CHAPTER IV - POPULATION	30
4.1 Historical Population Growth	30
4.2 Population Comparisons	31
4.3 Population Composition	34
4.4 Family and Household Size	36
4.5 Population Projections	39
4.6 Summary and Concerns	41
CHAPTER V - HOUSING	43
5.1 Housing Stock	43
5.2 Housing Growth and Trends	44
5.3 Housing Projections	47
5.4 Summary and Concerns	47
CHAPTER VI - ECONOMIC BASE	49
6.1 Introduction	49
6.2 Carman's Employment Structure	49
6.3 Dufferin's Employment Structure	51
6.4 Carman - Dufferin Employment Structure	53
6.5 Agricultural Specialization	53
6.6 Retirement Function	55
6.7 Recreational Function	56
6.8 Manufacturing	56
6.9 Carman's Trade Area	56
6.10 Summary and Concerns	57

TABLE OF CONTENTS (Continued)

CHAPTER VII - MUNICIPAL SERVICES	58
7.1 Introduction	58
7.2 Water System	59
7.3 Sewage System	61
7.4 Storm Drainage	62
7.5 Solid Waste Disposal	63
7.6 Transportation	64
7.7 Summary and Concerns	65
CHAPTER VIII - MUNICIPAL FINANCE	68
8.1 Introduction	68
8.2 Municipal Assessment Base	68
8.3 Revenue Sources	73
8.4 Spending Patterns	75
8.5 Capital Debt	76
8.6 Summary and Concerns	80
APPENDIX - COUNCIL CONCERNS	81
BIBLIOGRAPHY	82

LIST OF TABLES

		PAGE
3.1	Summary of Land Uses, Carman, 1987	22
3.2	Comparative Land Use Percentages	27
4.1	Historical Population Growth, 1901-1986	32
4.2	Comparative Population Growth Rates, 1941-1981	33
4.3	Population Composition by Specified Age Groups	37
4.4	Changes in Family and Household Size, Carman, 1951-1986	39
4.5	Projected Population Growth, 1981-2001	40
5.1	Carman Housing Stock, 1987	44
5.2	Household Composition	45
5.3	Projected Housing Needs, 1981-2001	47
6.1	Carman, Employment by Industry, 1971-1981	50
6.2	Dufferin, Employment by Industry, 1971-1981	52
6.3	Carman - Dufferin, Employment by Industry, 1971-1981	54
8.1	Assessment Base, 1971-1986	70
8.2	Carman Commercial and Residential Tax Rates, 1971-1986	71
8.3	Comparative Assessment Base, 1986	72
8.4	General Revenue Fund, 1971-1986	74
8.5	General Operating Expenditures, 1971-1986	77
8.6	Capital Debt, 1971-1986	78
8.7	Debt Projections, 1988-1992	79

LIST OF FIGURES

		PAGE
4.1	Historical Population Growth, 1901-1986	32
4.2	Comparative Population Growth Rates, 1901-1981	34
4.3	Carman Age - Sex Structure, 1976-1981	38
4.4	Population Projections, 1981-2001	41
5.1	Carman Subdivision Activity - Residential Building Permits, 1976-1986	46

LIST OF MAPS

		FOLLOWING PAGE
1.	Location Map	13
2.	Heritage Resources	13
3.	Flood Risk Area	15
4.	Major Facilities	29
5.	Existing Land Use	29
6.	Carman Trade Area	57
7.	Water Distribution System	67
8.	Sewage Collection System	67
9.	Stormwater Drainage System	67
10.	Transportation System	67

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

GEOGRAPHICAL SETTING

- Carman is located in a fertile agricultural area and serves as the retail trade and service centre for the region.

- Due to shallow aquifers Carman is considered a groundwater pollution hazard area.

- The Boyne River is the dominant geographical feature and is both an asset and a liability to Carman.

FLOODING

- Flood Designation under the Flood Damage Reduction Program will dramatically affect the future of Carman if a remedy to flooding is not achieved.

- Over 90% of the downtown and 30% of the residential area are located in the Carman Floodplain.

- Relocation of Carman's downtown would have a substantial effect on the land use pattern.

- The cost benefit ratio of recent studies favours diversion of the Boyne River.

- Carman cannot prepare an effective development plan until a decision is made on the flood diversion.

LAND USE

- Carman's land use pattern is divided into sectors by the river, the railways and the highways and development will continue to be influenced by these physical features.

- Only 65% of the 973 acres within the town boundaries is presently developed.

- Approximately 175 acres of land is developed in the fringe area of Carman providing a potential threat to Carman's viability as an urban centre and to Carman's future expansion.

- The existing stock of residential lots could last from 4 to 13 years depending upon growth rate but the available lots are concentrated in one area thus reducing choice and possibly affecting price.

- There is adequate land area within the municipal boundaries for future residential growth but expansion has been occurring in an area that will touch present municipal boundaries in a few years.

- The absence of an industrial park has resulted in an intermix of industrial and residential uses and a potential for land use conflicts.

- Carman displays a land use ratio similar to that of other communities of comparable size.

- The two classifications where Carman's differs from the average - parks in which it has more and vacant serviced land in which it has less - are both positive features.

POPULATION

- Carman has had a long term population growth rate of just under 1% per year with recent growth being below that of neighbouring communities.

- The thirty year decline in the rural population has ended indicating that Carman's regional population may be stablizing.

- The age and sex structure of the population indicates that Carman has a lower than average number of young and middle age persons and a higher than average number of older persons.

- If Carman's long term growth rate of .8% or 20 persons per year continues Carman will reach a population of 2,800 by the year 2001.

- If Carman's recent growth rate of 1.9% or 50 persons per year is maintained a population of 3,500 will be reached by the year 2001.

- The average family size has declined from 3.4 persons/family in 1951 to 2.9 persons/family in 1981.

- The average household size has declined from 3.4 persons/household in 1951 to 2.4 persons/household in 1981.

- The percentage of family households has declined over the period 1951-1981.

HOUSING

- Carman's housing is compared of 78% single family, 1% duplexes, 13% multiple-family (of which 10% is seniors housing), and 8% mobile homes. Demand for multiple-family housing type may in part be met by the large number of mobile homes.

- Housing demand will range from a low of 8 units per year to a high of 25 units per year over the next 15 years.

ECONOMIC BASE

- Carman's economic base is the agricultural service sector. The principal employers in the Carman - Dufferin region are the agricultural service industries and related business.

- Employment figures show substantial growth in the agricultural service industries and this together with export sales demonstrate specialization in this sector.

- Carman does not provide much employment in the secondary or manufacturing industries.

- Carman's general retail trade area is restricted in size due to the proximity of competing centres.

MUNICIPAL SERVICES

- Both the water and sewer systems require upgrading and improvements to bring them in line with recommended standards.

- Before any remedial work is performed both systems require the compilation of complete and accurate records of the respective distribution and collection systems and related facilities.

- Both systems require monitoring to verify per capita flows and consumption rates so that the correct usage figures are used in evaluating the systems.

- Engineering studies indicate a need for a program of upgrading the existing systems.

- Development expansion is possible in most areas of Carman however, some areas can be serviced more economically.

- The solid waste disposal site requires operational improvements. The existing site has a limited lifespan and investigation into a replacement site should begin.

- The existing street system is generally satisfactory and in good condition. Several changes to the street classification system are recommended.

MUNICIPAL FINANCE

- Generally Carman has lower assessment base than other communities of comparable size and the assessment base has grown very little in the past 15 years.

- Residential rate payers in Carman finance a greater proportion of municipal costs than they do in other communities of comparable size, this may be due to a small industrial and commercial tax base.

- Revenue from business taxes has declined steadily over the past 15 years.

- Education is taking an increasing proportion of revenues collected by Council.

- Carman has a low debt ratio indicating a capacity for financing any new capital expenditures.

INTRODUCTION

INTRODUCTION

A basic part of the planning process is the study of the background of the community. This study covers the community's assets, liabilities, problems, and trends. A background analysis provides the public and the local government with an understanding of the past trends, regional influences, the nature of specific problems, an estimate of the problems to be encountered in the future, as well as the potentials for the improvements and enhancement of the community. This background study will include all necessary surveys to provide a body of information that will permit proper analysis of local problems and needs and the formulation of planning goals for the development of a proper plan. The basic studies will cover physical and human resources including historical background, physical characteristics, land use, housing, transportation, facilities and utilities, social structure, economic base, and environment.

Chapter I begins by establishing the geographical location of Carman and related historical background to help clarify why the community is like it is and what trends it has followed in the past in order to determine the future course it may follow. This chapter also touches on the physical characteristics of the community that may have influenced past development and may determine future development.

Chapter II serves to draw attention to the Carman flooding problems. This report will not duplicate the studies and reports prepared by others but must be included because it will be one of the key issues to the future development of Carman.

Chapter III examines the distribution of existing land uses and the potential of future land development. It is essential to know how much of the land is currently used for residential, commerical, industrial, recreational and other developments, and how much of the land is undeveloped,

or used for agricultural purposes. With this information space can be provided for future expansion in specific directions and adjust land development and redevelopment in a well balanced pattern. The land use survey and analysis when combined with the economic and social factors will be used as a base for preparing a land use plan for the future.

Chapter IV is a study of the people of the community which involves the investigation of past and existing population characteristics and distribution, comparisons of socio-economic factors related to population composition and trends, whether it will grow or decline, whether a high percentage of people are young and will need schools or whether they are predominantly old and facilities for the elderly will be required. Population figures and projections are important for planning the future of any community.

Chapter V examines the housing stock in Carman. Development in the housing sector is one of the major concerns of a community. An examination of the existing housing stock, past and present trends are necessary to project housing needs. This information will be combined with population projections and servicing data to identify future residential areas in the Development Plan.

Chapter VI concentrates on the economic aspects of the community and its surrounding region. The economic base studies deal mainly with employment, industrial development, and the business climate of a community. These studies cover trade areas, size and location of work forces and employment, retail trade habits, industrial potential, resource limitations, and any other studies that will reveal the particular potentials of the community and the best ways in which they may be used by the community.

Chapter VII examines public utilities and services including the water system, sewer system, surface drainage, and how they would be affected by future growth. With this information, a plan can be created that will ensure adequate utilities for future use, regardless of how fast the community may grow. This chapter will also include an examination of traffic circulation and transportation facilities.

Chapter VIII contains information related to the financial stability of the community. An examination of the community's current debts and commitments will be undertaken. Recommendations will be made regarding the timing of any major projects to be undertaken by the community as a result of the development plan.

The Appendix contains a summary of the land use and planning issues and concerns identified by Council using the Nominal Group Technique. These issues and concerns are based on the experience and knowledge of the councillors as officials and residents of Carman.

Chapter I
COMMUNITY BACKGROUND

Chapter I - COMMUNITY BACKGROUND

1.1 Location and Physical Characteristics

The Town of Carman is located in south central Manitoba on the Boyne River approximately 80 kilometers southwest of Winnipeg at the intersection of Provincial Truck Highway 3 and 13. Carman's regional setting is shown on Map 1.

Situated on flat prairie land with rich soils Carman forms the northern segment of a prosperous agricultural area known as the Pembina Triangle. Carman is the largest urban centre in the northern segment and functions as a service centre for the surrounding rural population.

Carman is located between the Manitoba Escarpment and the Red River Valley and consequently the topography falls in an easterly direction with slopes averaging 15 feet per mile west of town and only 6 feet per mile to the east.[1] The Boyne River is the dominant physical feature and by virtue of its location at the base of the escarpment Carman is subject to periodic flooding. Serious floods have occurred in the Boyne River in 1880, 1894, 1902, 1923, 1970, 1974, and 1979.[2]

The soil in and around Carman consists of sandy loam and black loam. The lands immediately surrounding the town are designated as class 2 soils signifying few agricultural limitations requiring conservation measures or restricting the range of crops.[3]

Groundwater supply in the vicinity of Carman varies considerably from place to place, but is, in general, adequate for present requirements and

1 Planning Report on Natural Resources, Boyne Planning District, 1984, p.6.
2 Ibid., p.8.
3 A Review of the Heritage Resources of the Boyne Planning District, 1984, Map Showing C.L.I. Soil Capability for Agriculture.

for moderate new development.[4] Aquifers exist as sand beds at or near the surface, as gravel deposits below a thick layer of clay, and in bedrock formations. Water quality ranges from fair to excellent in the shallow sand aquifers, from fair to unusable in the sand and gravel aquifers, and is highly mineralized and unusable in the bedrock aquifers. The Natural Resources report states that at some locations in the shallow sand aquifers a moderate municipal or industrial supply can be developed. Because the shallow aquifers are only a few meters below the surface they are considered to be groundwater pollution hazard areas. Groundwater policies in the Natural Resources report relate to well construction, aquifer management and aquifer pollution prevention. For more detailed information relating to groundwater the Natural Resources report should be consulted.

1.2 Historical Background

Settlement at the present site of Carman began around 1879-1880 and occurred near the "Missouri Trail", a major transportation route at the time.[5] Development of a settlement prior to the building of the railway was contrary to the manner in which most prairie towns developed, but the arrival of the rail line in 1889[6] ensured Carman's permanent status as the service centre for the region. However, the arrival of the railway also had a serious negative influence on development. Initial settlement had located south of the Boyne River at what is now the intersection of P.T.H. No. 3, P.T.H. No. 13, and P.R. 245. When the railway arrived and located north of the Boyne it caused commercial development to shift north towards the railway and into the flood zone of the Boyne River. The recurring flood and development problems have plagued Carman ever since and give rise to its most serious planning concerns today.

Carman grew rapidly after the arrival of the railway. It was incorporated as a village in 1899 and as a town in 1905. To accommodate growth Carman has had to acquire additional land through several annexations. These boundary additions occurred in 1955, 1964, 1969, 1974, 1978, and 1982. Presently Carman covers an area of approximately 973 acres.

4 Planning Report on Natural Resources, Boyne Planning District, 1984, p.6.
5 A Review of the Heritage Resources of the Boyne Planning District, Historical Resources Branch, 1984, p.17.
6 Ibid., p.18.

1.3 Heritage Resources

Carman's role as the major service centre for the surrounding municipalities has resulted in a rich selection of heritage sites within the community. A detailed report describing these heritage resources was prepared by the Historic Resources Branch in 1984. The intent of that report was to provide sufficient documentation to aid the Town of Carman in formulating strategies for identification, preservation, and management of heritage sites and buildings.

Heritage sites are those sites which have a special significance and which may be of value not only to the people of Carman, but also to those living beyond its boundaries in the rural municipality or ever to the province. Those sites deemed unique to Carman include schools, churches, early industries and businesses, and the homes of leading citizens. A summary of these sites, extracted from the Historic Resources report, is presented here and their location is identified on Map 2.

> "Clendenning's mill operated from 1879 until the beginning of World War I. It was the first flour mill in the district and its central location gave Carman hegemony over the surrounding district. It is now represented by a few rotten footings in the Boyne River.
>
> While Roblin played an early role in stimulating Carman's growth, it was George Sexsmith who laboured to give actuality to Roblin's ideas. Sexsmith, as the reeve and school trustee, organized the building of many of Carman's public institutions. His home, an early stopping place on the Boyne, still exists on its original location on the banks of the Boyne.
>
> R.P. Roblin's Carman home is a physical reminder of a man responsible in part for the creation of a strong Conservation party in Manitoba. As premier of the province from 1900-1915 he guided its transformation from a pioneer society to a modern capitalist economy. As one of Carman's early citizens he was instrumental in determining its direction and growth.
>
> Edmund Watson was the resident architect of Carman. His skills are represented by many fine buildings still standing in the district, including his own home on Hammond Avenue in Carman.
>
> Within Carman, four commerical blocks were found to have significant historical backgrounds. The Leader Block was the home of the Dufferin Leader: the newspaper which reflected the ambitions of the community. This newspaper now published weekly under a new name in a new location. The Leader Block formed part of a five block brick conglomerate erected to attract investors to Carman.

The People's Cash Store was the enterprise established by R.P. Roblin when he first arrived in Carman. It functioned under various owners, including Roblin and two of his sons, from 1880 until 1931. The original store on Villiard Avenue (Main Street South) was destroyed by fire in 1900, and the store's second location, the Sons of England Block, suffered the same fate in 1976.

The Carman Furniture Store is the oldest remaining business in Carman today. Established in 1890 by A.S. Doyle, a veteran of the North West Rebellion, this commercial venture was divided in 1963 to form the Doyle Funeral Home and the Carman Furniture Store. The businesses are no longer operated by the Doyle family.

The Ryall Hotel is a district landmark. Situated on the banks of the Boyne in downtown Carman, it has been a centre of Carman's social life since 1903.

St. Andrew's Presbyterian Church had a rich Presbyterian heritage before its purchase by the Church of Christ Disciples in 1945. At that time it became the home of Manitoba's oldest Disciple congregation. An Edmund Watson design, the church was the first truly elaborate public structure erected in Carman.

The Land Titles Building, the present regional offices of the Department of Agriculture, was once a Bible College. The Church of Christ Disciples' attempt to bring moral and secondary education to Carman ended in financial failure. The building was subsequently purchased by the provincial government in 1902 for use as a land titles office.

The Memorial Hall was erected in 1919 as a symbol of the district's pride in their war contribution. Its construction was financed in part by donations from area citizens. It quickly became the administrative and social heart of the town and municipality.

Carman and the surrounding districts have been serviced by three hospitals over the years. The first hospital was established in 1905 entirely through community endeavour. It was replaced in 1949 by a larger and more modern structure. This too proved inadequate to serve the needs of Dufferin and the five surrounding municipalities. The site of the first two hospitals has been locally marked as a heritage site because of the great community involvement in their operation."[7]

7 A Review of the Heritage Resources of the Boyne Planning District, Historical Resources Branch, 1984, p. 4 - 7.

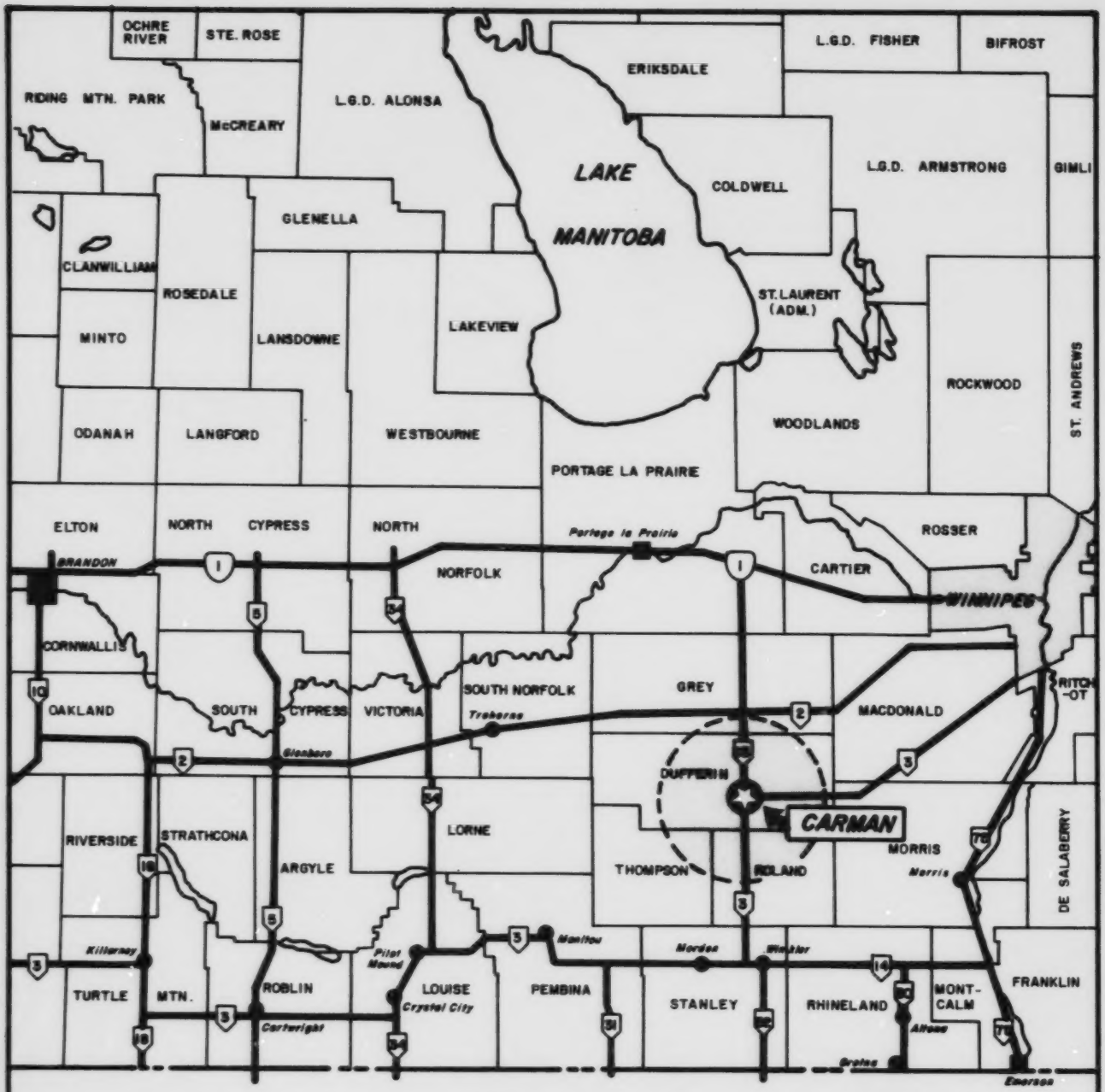
1.4 Summary and Concerns

- Carman is located in a prosperous agricultural area with fertile soils. Its past and future are firmly tied to the agricultural economy.

- Topography in the area is fairly flat with the Boyne River the dominant physical feature. This combination results in a flood hazard situation.

- There is sufficient groundwater supply in the area to support a moderate amount of fringe development not connected to the municipal system. Due to shallow aquifers the area is considered a groundwater pollution hazard area.

- Carman was one of the earliest settlements in the area and consequently is well endowed with heritage resources.

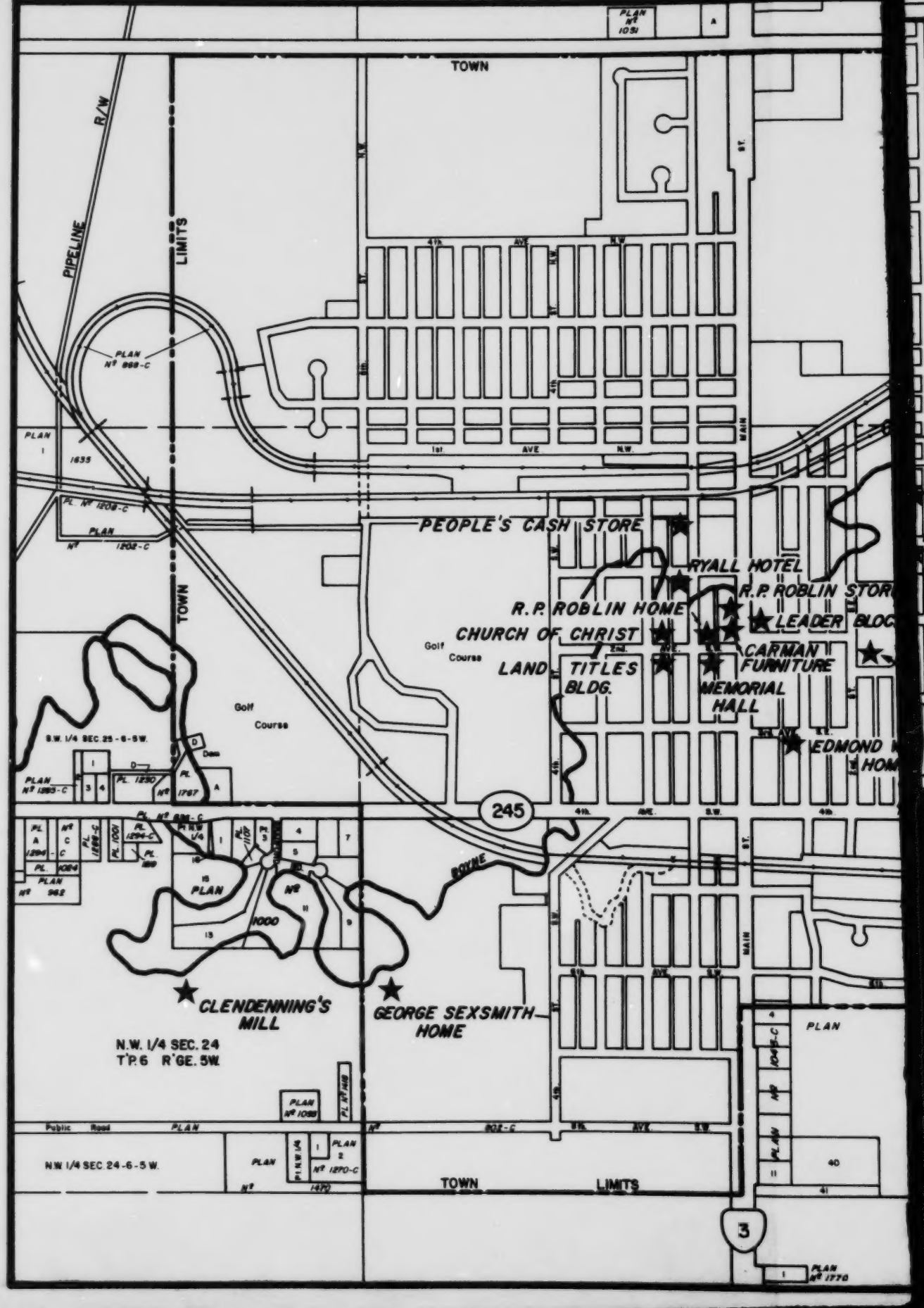


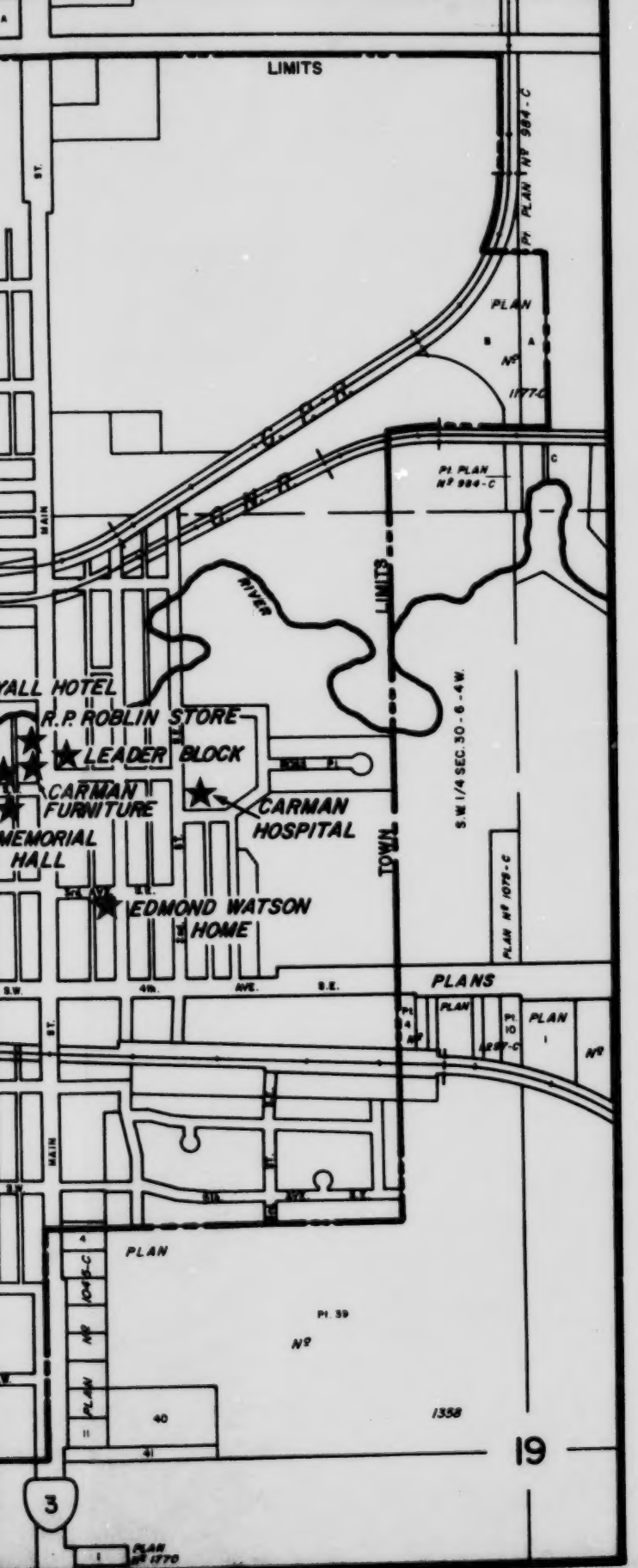
TOWN OF CARMAN

Map No. 1

BACKGROUND STUDY
To The
DEVELOPMENT PLAN

LOCATION MAP


TOWN
PIPELINE R/W
LIMITS
PLAN Nº 988-C
PLAN 1635
PL. Nº 1208-C
PLAN Nº 1208-C
PEOPLE'S CASH STORE
RYALL HOTEL
R.P. ROBLIN HOME
CHURCH OF CHRIST
LAND TITLES BLDG.
CARMAN FURNITURE
MEMORIAL HALL
LEADER BLOC
Golf Course
Golf Course
TOWN
S.W. 1/4 SEC. 25-6-5W.
Dam
PLAN Nº 1395-C
PL. 1230
PL. 1767
245
PLAN Nº 962
PLAN 1000
CLENDENNING'S MILL
GEORGE SEXSMITH HOME
N.W. 1/4 SEC. 24
T'P. 6 R'GE. 5W.
PLAN Nº 1099
Public Road PLAN
N.W. 1/4 SEC. 24-6-5 W.
PLAN Nº 1470
PLAN Nº 1270-C
TOWN LIMITS
PLAN Nº 1045-C
PLAN Nº 1770
3



Map No.2

TOWN OF CARMAN

BACKGROUND STUDY

To The

DEVELOPMENT PLAN

Legend:

★ Heritage Site

Source: Historical Resources

HERITAGE RESOURCES

400 0 400 800
SCALE IN FEET

DEPARTMENT OF MUNICIPAL AFFAIRS
PROVINCE OF MANITOBA

NOV. 1987 409-70-101

MAR. 1988 409-88-100

Chapter II
FLOODING

Chapter II - FLOODING

2.1 Introduction

The Boyne River meanders through Carman with a major portion of the downtown commercial core and most of the older residential area located within the 100 year flood plain. Since its beginnings Carman has experienced seven major floods, three of which occurred quite recently. These floods took place during the spring thaw in 1970, 1974, and 1979 and in each case extensive property damage resulted.[8]

In 1982, under the Canada - Manitoba Flood Damage Reduction Agreement, a major portion of the town was designated as a flood risk area. This designation precludes any further federal or provincial expenditures for development that is subject to damage from flooding. The flood hazard designation could mean major changes in the future development pattern and potential of the Town of Carman. A number of flood-proofing schemes have been proposed, but the costs of these schemes have always exceeded the benefits. However, over time the benefits of flood protection have risen relative to the cost and a flood diversion is now feasible.

2.2 Flood Diversion Studies

In May of 1987 a report prepared by the Department of Municipal Affairs and entitled "Carman Flood Diversion Study" was undertaken to provide some cost estimates for relocating that portion of Carman within the flood risk area. The report stated the total market value of buildings located in the flood plain was $26 million or 50% of the town's total taxable assessment. A flood plain has two distinct areas: a Floodway and a Floodway Fringe. These areas are shown on Map 3.

8 The Impacts of Flooding On The Town of Carman 1970 - 1980 With Projections For the Future, F. Freshwater, S. Coughlin, January 1982, p.8.

The relocation of commercial buildings from the floodway into a shopping centre located outside the flood plain would cost a minimum of $3 million. Residential property in the floodway consists of 76 homes and the cost of replacing these outside the flood plain is estimated at $4.5 million. An additional $1.5 million would be required to provide servicing to the relocated commercial and residential development. Thus the total relocation costs are estimated to be $9 million. This figure represents the cost of relocating only those businesses and residences in the floodway proper. It is further expected that a degree of commercial relocation from the floodway fringe will occur as a result of the loss of association and proximity to the central commercial that was previously located in the floodway. This relocation would add to the total relocation costs.

An "Engineering Feasibility Study of a Proposed Floodway for Carman" was conducted in September of 1987 by the Prairie Farm Rehabilitation Administration for Agriculture Canada. This report determined that the best overall alternative for a diversion would cost approximately $6.9 million.

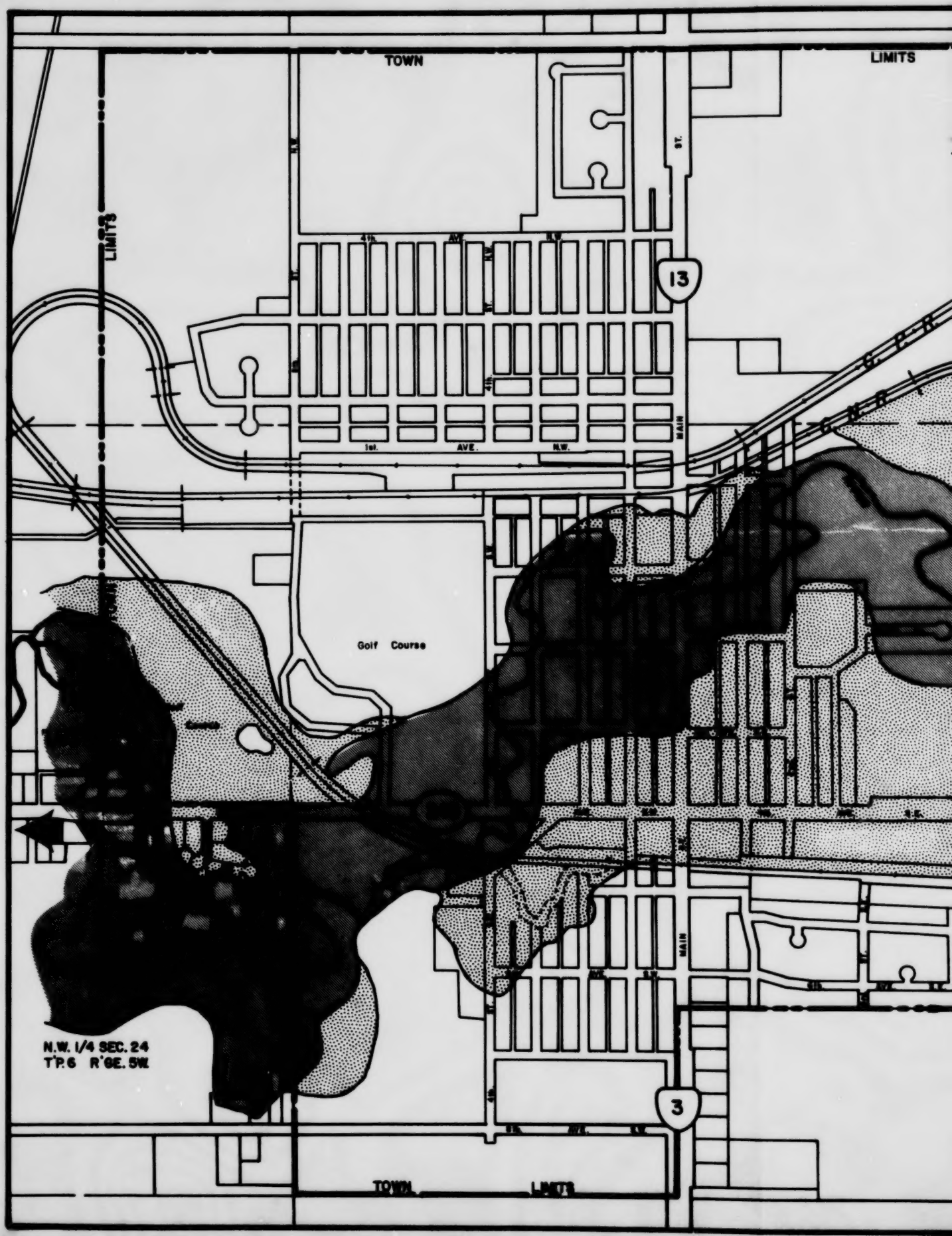
2.3 Summary and Concerns

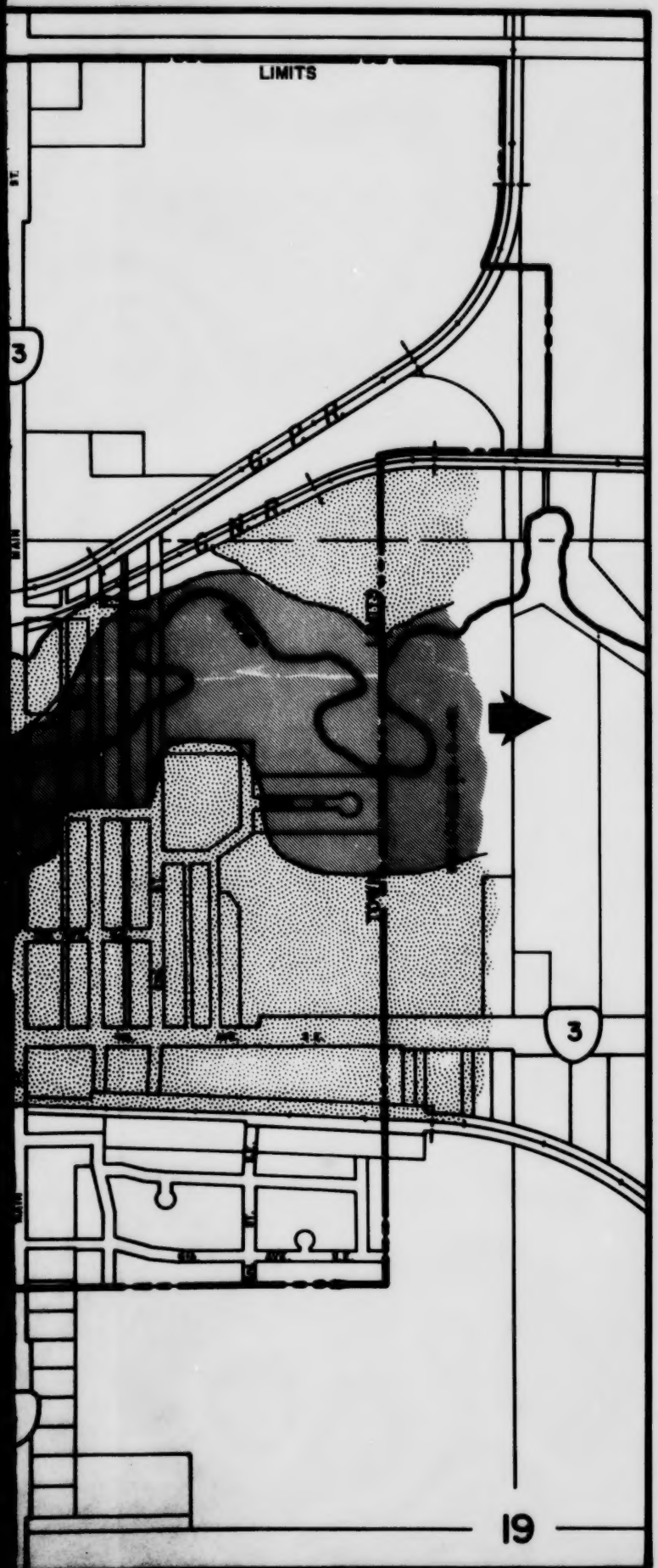
- Based on the two cited studies the cost of relocating the downtown would exceed the cost of a diversion.

- From a land use perspective relocation would result in a disjointed community in which services would be inaccessible and inconvenient to many residents. Carman would lose its attractiveness and positive community image.

- The future development pattern for Carman will be determined by the solution to the Boyne River flooding problem.

- A decision regarding flood control measures for Carman is critical to the adoption of development policies for the Town of Carman.


TOWN
LIMITS
LIMITS
13
MAIN
1st. AVE. N.W.
Golf Course
MAIN
N.W. 1/4 SEC. 24
T'P. 6 R'GE. 5W.
3
TOWN LIMITS



Map No.3

TOWN OF CARMAN

BACKGROUND STUDY

To The

DEVELOPMENT PLAN

Legend:

Floodway

Floodway Fringe

Source: Manitoba Department of Natural Resources

FLOOD RISK AREA

400 0 400 800

SCALE IN FEET

DEPARTMENT OF MUNICIPAL AFFAIRS

PROVINCE OF MANITOBA

DATE: NOV. 1987 DRAWING No. 400-70-102

Chapter III
LAND USE ANALYSIS

Chapter III - LAND USE ANALYSIS

3.1 Introduction

This Chapter will describe general development patterns and provide a summary of acreage devoted to each land use. The purpose of this analysis will be to quantify existing land uses, identify land use problems and concerns; identify areas for future expansion, and to compare Carmans' land use with that of other communities of similar size and function. The current land use pattern for Carman is shown on Map 5.

It is not uncommon for some urban development to occur on the fringe areas outside the town limits and for certain areas within the town limits to remain in agricultural use. Analysis based on the developed area as opposed to the area within the town limits provides a more accurate account of urban development and a more meaningful form of summary for inter-community comparisons. For these reasons all contiguous urban development is included in this analysis regardless of whether it lies inside or outside the town limits. The land use summary does however provide a breakdown of the acreages according to the municipality in which they are located.

3.2 General Land Use Pattern

As mentioned in Chapter 1 Carman's early development was centered around the intersection of Main Street and Fourth Avenue S.E. In 1889, when the Canadian Pacific Railway was extended to Carman, the station grounds were located just north of the Boyne River thus drawing the prime commercial property northward and locating Carman's downtown near the Boyne. Consequently, the Boyne River dominates Carman's land use pattern, dividing the community in half, providing pleasant wooded residential and park areas, scenic views, but creating havoc during periods of flooding. More recently the Canada-Manitoba Flood Damage Reduction Agreement has created uncertainty about the future development of the town under flood hazard conditions.

Over half of Carman's commercial establishments are located in the floodplain and the Boyne floodway covers over 90 percent of the central business district.[9] About one-third of the residential area is included in the floodplain covering approximately 302 houses inside the town limits and another 35 houses outside the limits.[10] As well, many public buildings, including schools, churches, and seniors housing are located in the floodplain. The designation of a major portion of the Town of Carman as a flood hazard area makes this the most important land use issue.

The second major feature affecting Carman's land use pattern is the railway system which also serves to divide the town. Together the river and railways form strong barriers that divide Carman's land uses into distinct north/south sections. The railway also has a further influence in that it serves industry and therefore attracts that type of land use.

The railway through the south part of Carman is presently underutilized and poorly maintained and it has been suggested that this line be closed and an alternate use, such as a bicycle/pedestrian path be established. As the rail line presently passes through residential neighbourhoods it conflicts with and is detrimental to the surrounding land use. The suggested use would enhance the neighbourhood and be an ideal use for this corridor.

A third influencing factor on Carman's land use is the provincial highway system. Two Provincial Trunk Highways, P.T.H. No. 3 and P.T.H. No. 13, and Provincial Road 245 all pass through Carman and converge in a common intersection. Because these roads have wider rights-of-way and heavier traffic volumes they tend to act as physical barriers dividing the town into several small sections. It is common for areas created in this manner to develop their own character and identity. Major thoroughfares also pose problems of safety and supervision when young children must cross them to get to schools and parks.

9 Carman Flood Diversion Study, Municipal Planning Branch, 1987, p.1.
10 Ibid, p.4.

Since Carman's incorporation as a town in 1905 it has had six boundary additions between 1955 and 1982. The land area within the present municipal limits is approximately 973 acres of which 630 acres or 65 percent is developed. The remaining 343 acres, consisting of agricultural lands and some flood plain along the Boyne River, are considered undeveloped.

In addition to the 630 acres of developed land within the town limits there are approximately 175 acres of developed land in the Rural Municipality of Dufferin making a total of 805 acres of developed land in the Carman urban area.

Table 3.1 provides a statistical summary of the 1987 land use based on conventional classification systems. It tabulates acreages and their percentages for each particular use category of the area within the town limits, the area outside the town limits, and the total developed area. The main categories of land use are; residential, commercial, industrial, institutional, parks and open space, rights-of-way, and agriculture. These uses are further detailed and examined in the following paragraphs.

3.3 Fringe Development

The previous section made mention of the fact that a substantial amount of urban development lies outside the town boundaries in the R.M. of Dufferin. In fact, there are 175 acres of land in the R.M. of Dufferin that are developed in urban uses. This development is composed of 45 acres of residential, 9 acres of commercial, 23 acres of industrial, 18 acres of institutional, 41 acres of parks and open space, and 38 acres of rights-of-way.

The residential land use is mainly composed of large lot single-family residences along the Boyne River and P.R. 245. Residents in this area have on occasion requested the municipal water system be extended. This is an inevitable step in the growth of fringe areas, but large lot scattered housing is expensive to service and continued uncontrolled development in this area will certainly pose problems in the future. Another smaller group of residences is located in the vicinity of the Carman Airport along 8th Avenue S.W., and there are a few homes and mobile homes intermixed with industrial and commercial uses along P.T.H. No. 3 to the east of town.

Commercial land uses outside the town limits are mainly composed of highway commercial uses and account for over 9 acres or half of the total highway commercial uses in the Carman area. Highway commercial development has a tendency to extend out from a community along major transportation routes making it difficult to keep this type of development totally contained within the town limits. Furthermore, many highway commercial uses, such as implement dealerships, are compatible with rural areas and may be acceptable as fringe development. The concern is that uncontrolled highway commercial development could prove detrimental to the rational and economical growth pattern of the town. If Carman and Dufferin were to co-operate on land use controls and regulate this development, it may not be necessary for all highway commercial development to be inside the town limits.

Industrial land uses have also developed in the fringe area. Of the 50 acres of industrial land use in the area, 23 acres are located in the R.M. of Dufferin. Industrial uses have located in the fringe areas along the major transportation routes as access to the highways is essential to their operation and the town has never provided a suitable alternate location in which industry could locate.

Other fringe development includes part of the golf course expansion, Carman Collegiate sports field, two airports and Carman Cemetary.

With approximately 20 percent of the developed urban community located outside the municipal limits Carman should seriously consider the impact of fringe development on the viability of Carman as a major urban service centre. If the areas experiencing urban-related development are left uncontrolled, such development may impede the town's long term development goals and become a financial burden if they are annexed.

3.4 Residential

At present 228 acres or 28 percent of the total developed area is devoted to residential land use. One hundred eighty three acres are located within the town limits while 45 acres of residential lie outside the town limits primarily to the west along 4th Avenue S.W. (P.R. 245).

Over 200 acres or 88 percent of the residential land use consists of single family detached housing with only 1 acre of two-family dwellings and 4 acres of multiple family dwellings. A further 17.5 acres of land is devoted to a mobile home trailer park. Much of the older residential land use is located in the central sections of town. Newer residential development has occurred in the north (Bishop Avenue), the northwest (2nd and 3rd Avenues N.W.), the east (Ross Place), and the southeast (5th and 6th Avenue S.E.). The present stock of undeveloped residential lots are mostly found in these subdivisions and constitute approximately 105 lots of which the majority (86 lots) are located in the Sunny Side Park subdivision. In Chapter 5 the projected housing needs indicate a housing requirement of 8 dwelling units per year if the low population growth rate continues. This means the present supply of residential lots could be sufficient for 12 years. However, as a general rule prospective buyers should be provided with a selection of site alternatives and this would not be the case with a majority of the vacant lots in one subdivision. Council may want to adopt policies to control the development of residential land in order to ensure an adequate price and location selection of residential lots on the market at all times.

Land areas suitable for residential expansion exist within the present town limits. There is an area in the northwest section of town, west of 8th Street N.W., containing approximately 60 acres of land and another area of about the same size in the south end of town around the hospital. On the east side, in the vicinity of Ross Place, another 15 acres of land exists that could be utilized for residential purposes if the flooding problem is resolved. Together these areas could yield over 500 residential lots, however, most of this land is being used for agricultural purposes and may not be readily available for urban development. Land within the Boyne River floodplain cannot be used unless a diversion is constructed.

In addition to the areas inside the town limits expansion of residential land use will likely occur in the south east where the existing subdivision has been designed to accommodate future growth. This area is outside the Boyne floodplain and is a logical extension of residential land use but would require annexation.

When the large residential lots outside the town limits and land used for two-family and multiple-family dwellings are excluded the net residential density is approximately 5 dwelling units per acre and the average lot size is roughly 70 ft. by 125 ft. or about one-fifth of an acre. Gross residential density is about four dwelling units per acre. These densities are typical for urban communities of this size.

TABLE 3.1

SUMMARY OF LAND USES, CARMAN 1987

	Inside Town Limits		Outside Town Limits		Total Developed Area	
Class of Use	Acres	Percent	Acres	Percent	Acres	Percent
All residential	**182.9**	**18.8**	**44.8**	**25.7**	**227.7**	**28.3**
One-family	160.1	16.5	43.6	25.0	203.7	25.3
Two-family	1.1	0.1	-	-	1.1	0.1
Multi-family	4.0	0.4	-	-	4.1	0.5
Mobile Home	17.6	1.8	1.2	0.7	18.8	2.4
All Commercial	**32.2**	**3.3**	**9.4**	**5.4**	**41.6**	**5.2**
Highway Commercial	18.9	1.9	9.4	5.4	28.3	3.5
Central Commercial	13.3	1.4	-	-	13.3	1.7
All Industrial	**26.6**	**2.7**	**23.2**	**13.2**	**49.8**	**6.1**
Light Industrial	11.9	1.2	7.9	4.5	19.8	2.5
Heavy Industrial	14.7	1.5	15.3	8.7	30.0	3.6
All Institutional	**27.9**	**2.8**	**18.1**	**10.4**	**46.0**	**5.6**
Schools	7.4	0.7	2.7	1.5	10.1	1.2
Public Buildings	11.2	1.1	15.4	8.9	26.6	3.3
Seniors Housing	2.0	0.2	-	-	2.0	0.3
Churches	5.5	0.6	-	-	5.5	0.7
Private Clubs	1.8	0.2	-	-	1.8	0.2
Parks and Open Space	**133.3**	**13.7**	**41.5**	**23.7**	**174.8**	**21.7**
Recreation Grounds	111.9	11.5	31.1	17.8	143.0	17.8
Open Spaces	21.4	2.2	10.4	5.9	31.8	3.9
Rights-of-Way	**176.1**	**18.1**	**37.6**	**21.5**	**213.7**	**26.6**
Streets, Lanes	133.5	13.7	27.5	15.7	160.9	20.0
Railways	42.6	4.4	10.1	5.8	52.8	6.6
Vacant Land	**51.2**	**5.3**	**-**	**-**	**51.2**	**6.5**
Total Developed Area	**630.2**	**64.7**	**174.6**	**100.0**	**804.8**	**100.0**
Agricultural/Non-Urban	**343.1**	**35.3**	**-**	**-**	**343.1**	**-**
Total Area	973.3	100.0	174.6	100.0	1147.9	100.0

Source: Municipal Planning Branch, Land Use Analysis, 1987

3.5 Commercial

Commercial uses occupy almost 42 acres or 5.2 percent of the total developed area. Of this, 28 acres is highway commercial found along Main Street and Fourth Avenue Southwest and generally consisting of low intensity uses such as lumber yards, auto and implement dealerships, service stations, and drive-in restaurants. These uses, catering to a motoring clientele, are well located in that they have the required exposure along the major traffic routes and large lot sizes. It should be noted that about one-third of the highway commercial acreage is located outside the town limits.

General commercial accounts for approximately 13 acres of commercial land use but contains four times as many businesses as the highway commercial areas. The most intensely developed area is along Main Street from the tracks to Second Avenue S.W., First Avenue S.W. from Main Street to the Boyne River, and First Street S.W. from Centre Avenue to the river. This area is the central commercial district and contains the main focal points of the downtown, such as the Library, Post Office, and Municipal Offices. This was also the area that received the major improvements under the recent Main Street Manitoba Program which was intended to improve the appearance and create a distinctive commercial centre for the town. Expansion of the central commercial district could occur in adjacent areas that are presently in industrial uses and/or through redevelopment and more intensive use of the existing land.

With respect to serving the needs of the residents of Carman the central commercial district is ideally located in the centre of the community. If this commercial function should have to be relocated as a result of the flood hazard from the Boyne River it could result in a very disjointed community and one in which residents without vehicular transportation would be poorly served.

General commercial outside of the central commercial district is mainly located along Main Street South in a commercial strip which connects the downtown with the major intersection of P.T.H. No. 13, P.T.H. No. 3 and P.R. No. 245. Businesses in this area are less concentrated and are interspersed with residential housing. Commercial infilling along Main Street would be a logical development.

3.6 Industrial

Land devoted to industrial usage amounts to approximately 50 acres or 6.2 percent of the total developed area. Nearly one-half of the industrial land is located outside the town limits.

Heavy industrial uses, those that produce a high level of dust and noise, constitute about 30 acres or 3.7 percent of the total developed area. They consist of such uses as bulk oil dealers, seed processors, and trucking companies. The major concentration of heavy industry is located within the town limits along the railway lines with much of it in the centre of town.

Light industrial uses comprise approximately 20 acres of land and consist primarily of such uses as storage facilities and autobody shops.

Industry in Carman developed firstly along the railways and then along the highways as truck transport became popular. As a result industrial uses are widespread and intermixed with commercial and residential uses creating the potential for land use conflicts. At the present time Carman does not have an area that is specifically designated for future industrial use, however, there is a large parcel of undeveloped land in the northeast corner of town in a location that is well suited to industrial use and which could be developed as an industrial park. The area is serviced by rail, has good highway access, and industrial uses are already established in the area. This site also takes advantage of the prevailing winds. Council might wish to adopt a long term goal of relocating the heavy industries from the station grounds to this area thus freeing up land in the centre of town for commercial development.

3.7 Institutional

Institutional land uses occupy over 46 acres of developed land representing about 6 percent of the total developed area. Included in this category are schools, churches, hospitals, personal care homes and government offices.

The Midland School Division operates one elementary school and the Carman Collegiate totalling about 7 acres of land. Public land uses within the town limits account for approximately 11 acres and include the Carman Hospital, Memorial Hall, the Carman and Dufferin Library, Department of Agriculture offices, Post Office, Manitoba Telephone System offices, RCMP detachment and the Water Treatment plant. Outside the town limits are the Carman Airport and Carman Cemetery totalling 15 acres.

There are two personal care apartments, Boyne Seniors Lodge and Boyne Towers, containing approximately 110 housing units and occupying about 2 acres of land.

Carman has eight churches occupying 5 1/2 acres and 2 private clubs, Masonic Lodge, and Legion Hall occupying about 2 acres of land. Some of these major facilities and institutions are shown on Map 4.

3.8 Parks and Open Space

Due to the Boyne River, Carman has a great deal of park and recreation space with 175 acres or almost 22 percent of the total developed area consisting of parks and open space. The vast majority of this land use lies on the west side of town and includes the Carman Golf Course, Fair Grounds, Race Track, Sports Field, Swimming Pool and Museum. These account for 130 acres of land.

The recreation grounds of the Midland Elementary School and Carman Collegiate constitute 7 acres of which approximately 4 acres of the Carman Collegiate sports field lie outside the town limits.

There is one tot lot on Fifth Street N.W. providing a play area for pre-schoolers in the northwest residential area. The elementary school playground serves this function in the central area, but there are no tot lots in the east and south sections of town and consideration should be given for the provision of tot lots in the neighbourhoods where they are lacking. This type of facility does not have a large land requirement, but must be located in the immediate neighbourhood and should be accessible without major street crossings.

Open spaces are those public areas with little or no development, but which are important to the community in that they give an aesthetic value and provide areas for passive recreation. In Carman the Boyne River comprises the largest amount of open space covering an area of about 17 acres. Buffers and public reserves account for another 4 acres of open spaces.

3.9 Rights-of-Way

Land used for rights-of-way occupies over 213 acres or 27 percent of the total developed area. Rights-of-way include highways, streets, lanes, and railways. The percentage of land used for streets is important as an indicator of land use efficiency. The greater the amount of streets serving the community the less efficient they are and the greater the cost to tax payers. Land devoted to streets and lanes in Carman occupies about 20 percent of the developed area while railways occupy about 7 percent. At 20 percent of the land area the street system would be judged to be reasonably efficient and not an undue burden on tax payers.

3.10 Vacant Land

Carman has about 51 acres of vacant land within the town boundaries. This includes only that land which is subdivided and available for urban use but is presently undeveloped. Vacant land in Carman is available for a variety of land uses but the vast majority is found in residential subdivisions and most of that is located in the southeast.

3.11 Agricultural/Non-Urban

The final category of land use is that which is referred to as agricultural and non-urban. There are 343 acres including land under cultivation and certain portions of the Boyne River floodplain. As noted in Table 3.1 land in this category lies within the town limits but is not included in the figures that make up the total developed area.

3.12 Comparative Land Use

Land use ratios for a selected number of communities are presented in Table 3.2. In this table a percentage breakdown of land devoted to each of the major land use types is shown.

TABLE 3.2

COMPARATIVE LAND USE PERCENTAGES

Land Use	Average	Carman	Altona	Deloraine	Gimli	Morden
Residential	33%	28%	36%	32%	40%	30%
Commercial	5	5	7	5	4	3
Industrial	5	6	9	4	2	5
Institutional	6	6	3	6	6	8
Parks	12	22	9	14	10	7
Rights-of-Way	27	27	21	27	34	27
Vacant	11	6	16	11	4	19

N.B. Carman percentage includes uses located in Carman fringe area.

Source: Municipal Planning Branch, Land Use Analysis, 1987.

This data should not be used as an indicator of model land use ratios, but it does illustrate the wide range of ratios that exist among communities and they do allow some observations to be made. Comparing Carman's land use percentages to the average percentages it appears that residential land occupies slightly less area, 28 percent versus 33 percent. Land used for parks occupies substantially more area, 22 percent versus 12 percent. This is due to the golf course and large regional park facility that has developed along the Boyne River. Commercial, industrial and institutional land uses, as well as land used for streets are all fairly representative of the average percentages in those categories. With respect to vacant land Carman is below the average having only 6 percent of the developed land area unused. In general Carman is efficient in the manner in which it is using land and is well endowed with parks and open space owing to the Boyne River.

3.13 Summary and Concerns

- The Boyne River divides Carman and dominates the land use pattern. It is a great asset under normal water levels and a great liability under flood conditions.

- Over 90% of the central business district and 30% of the residential area is located in the Boyne River floodway.

- The railways also divide Carman's land use and create land use conflicts.

- Provincial highways that pass through Carman influence development and act as physical barriers dividing Carman's residential areas.

- The total developed land in and around Carman covers an area of approximately 805 acres.

- The area within Carman's municipal limits contains 973 acres of which only 630 acres or 65% is developed for urban purposes.

- About 175 acres or 20% of the developed urban area is located outside the municipal limits in the R.M. of Dufferin.

- Approximately one-third of the highway commercial and one-half of the industrial land use area is located outside the town limits.

- If the areas experiencing urban related development in the R.M. of Dufferin are left uncontrolled that development may impede Carman's long-term development goals and become as financial burden if annexed.

- Carman's residential land use is very homogeneous with approximately 90% devoted to single family dwellings.

- At the present growth rate, Carman has a 12 year supply of residential lots, however, this may not ensure an adequate choice of sites.

- A further 500 residential lots could be provided within the present boundaries if it can be developed.

- Residential development has been occurring in an area which will require annexation if expansion is to continue in that area.

- The gross residential density for single-family dwellings is about four dwelling units per acre.

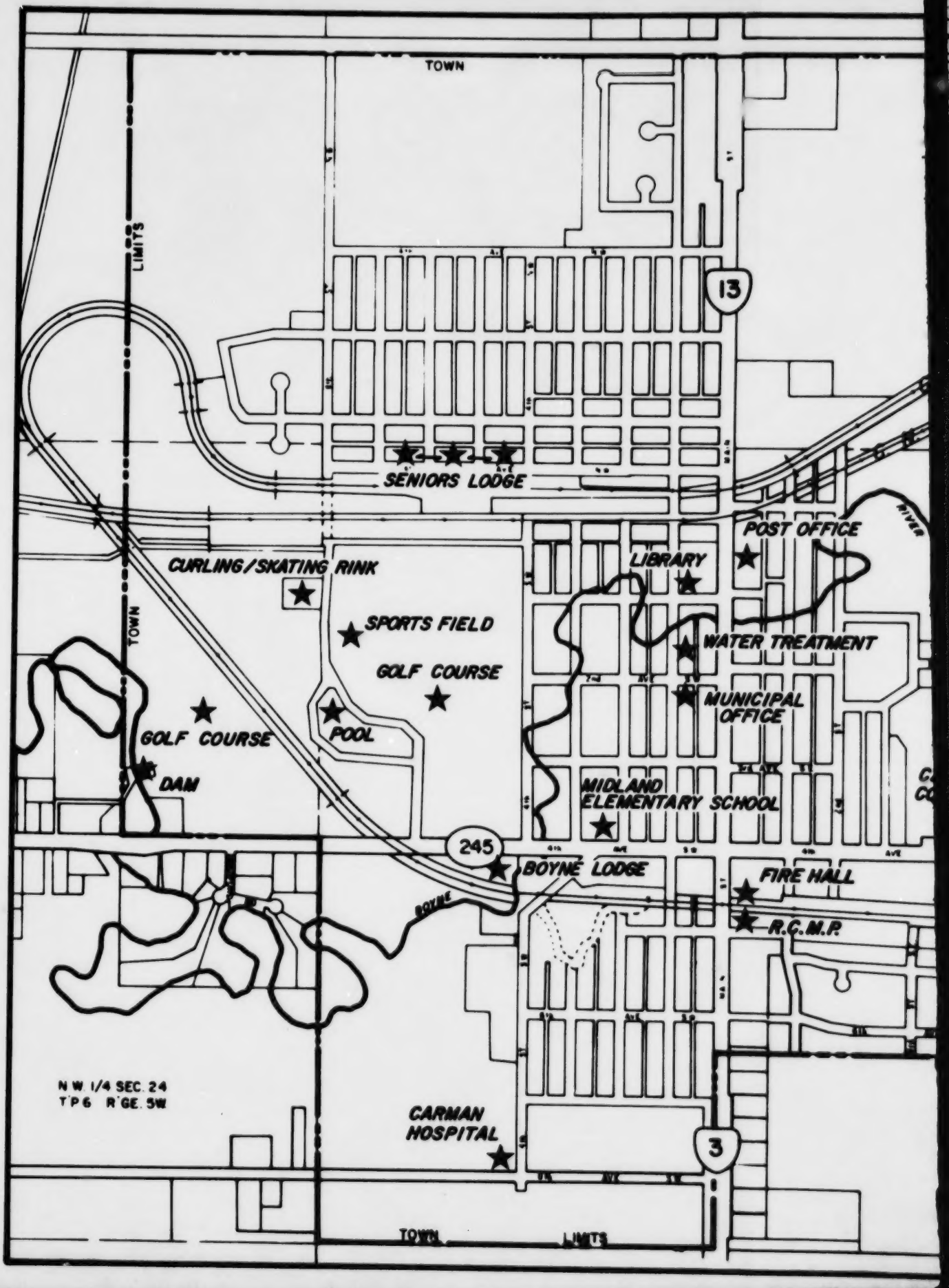
- Industrial land uses are widespread and intermixed with commercial and residential uses creating existing and potential land use conflicts.

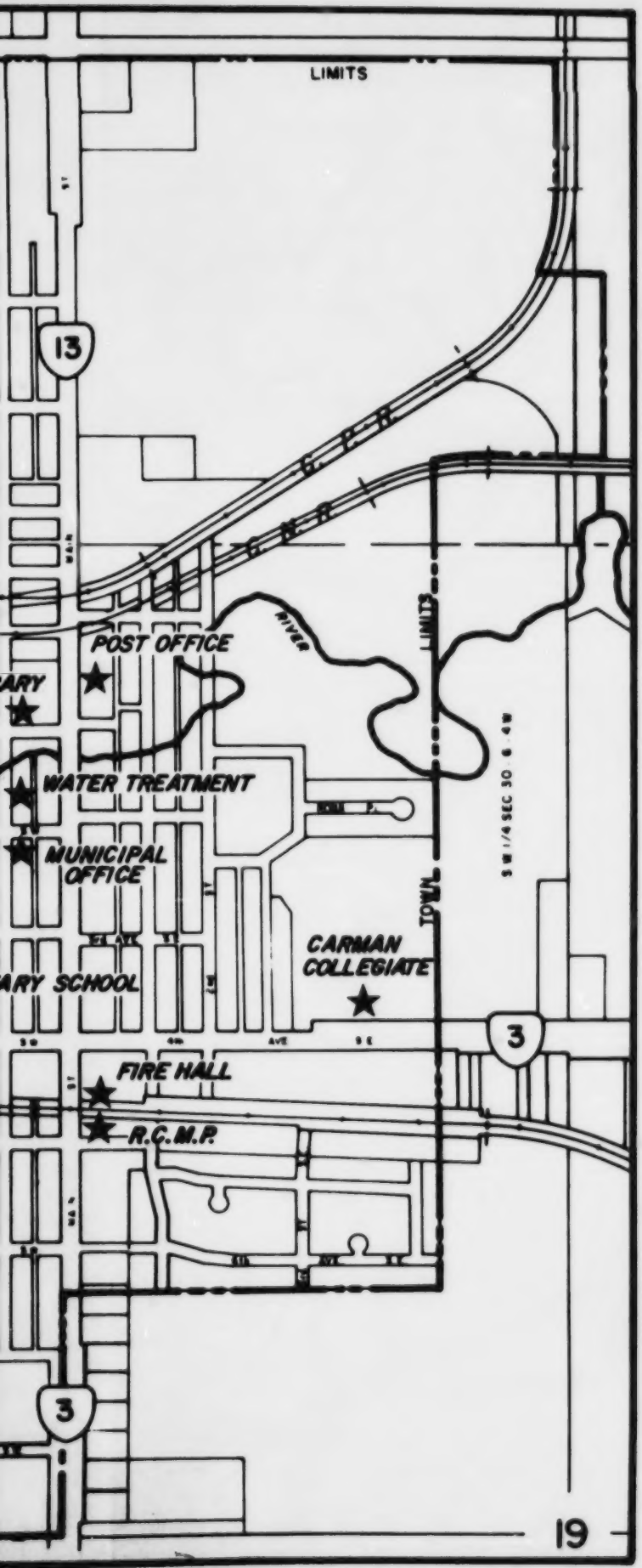
- Carman does not have an industrial park which would serve to attract industry and reduce land use conflicts.

- Carman has an abundant supply of parks and open space due primarily to the Boyne River and the golf course.

- There is a shortage of developed tot lots or neighbourhood parks.

- In general Carman's land is used efficiently with a minimum amount of vacant land and a minimum amount of land used for the street system.


TOWN
LIMITS
13
SENIORS LODGE
POST OFFICE
LIBRARY
CURLING/SKATING RINK
SPORTS FIELD
WATER TREATMENT
GOLF COURSE
MUNICIPAL OFFICE
GOLF COURSE
POOL
DAM
MIDLAND ELEMENTARY SCHOOL
245
BOYNE LODGE
FIRE HALL
R.C.M.P.
BOYNE
N.W. 1/4 SEC. 24
TP 6 R GE. 5W
CARMAN HOSPITAL
3
TOWN LIMITS



Map No.4

TOWN OF CARMAN

BACKGROUND STUDY

To The

DEVELOPMENT PLAN

MAJOR FACILITIES

400 0 400 800
SCALE IN FEET

Manitoba
Municipal Affairs
Municipal Planning

DATE: MAR. 1988	DRAWING NO. 409 - 70 - 103
REVISED	DRAWING NO.

Chapter IV
POPULATION

Chapter IV - POPULATION

4.1 Historical Population Growth

Carman was one of the first communities to establish in the area and had attained a population of 1,400 by 1901. However, during the next forty years Carman experienced virtually no growth at all. Expansion of the agriculture sector between 1911 and 1921 produced a growth spurt, but this was offset by a general recession and loss of population in the 1930's.

Between 1941 and 1986 steady growth resulted in an increase of 1045 persons and an average annual growth rate of 1.6 percent. A period of fast growth occurred in the 1940's accompanying the rural depopulation trend. This was followed by a period of slow growth in the 50's and 60's. Finally, the economic prosperity of the 1970's produced a strong growth rate and Statistics Canada reported Carman's population at 2,408 in 1981 and 2,500 in 1986.

Carman's overall growth rate has been a modest .8 percent per annum and its population growth has been characterized by relative stability which may be attributed to its agricultural background. The historical population figures representing these trends for the eighty-five year period 1901 to 1986 are presented in Table 4.1 and Figure 4.1.

Historically the rural population has been larger than that of Carman, however, since about 1940 a declining rural population and a steadily increasing urban population have seen the two converge and by the 1986 census there were only about 122 more residents in Dufferin than there were in Carman. A slight increase in the rural population between 1971 and 1981 indicated that it may have been leveling off however, 1986 shows another decrease. This relationship can be seen in Table 4.1

4.2 Population Comparisons

To provide a better understanding of Carman's status in the south central region of Manitoba a population comparison with other urban communities has been prepared. The comparative data is shown in Table 4.2 and graphically depicted in Figure 4.2.

TABLE 4.1

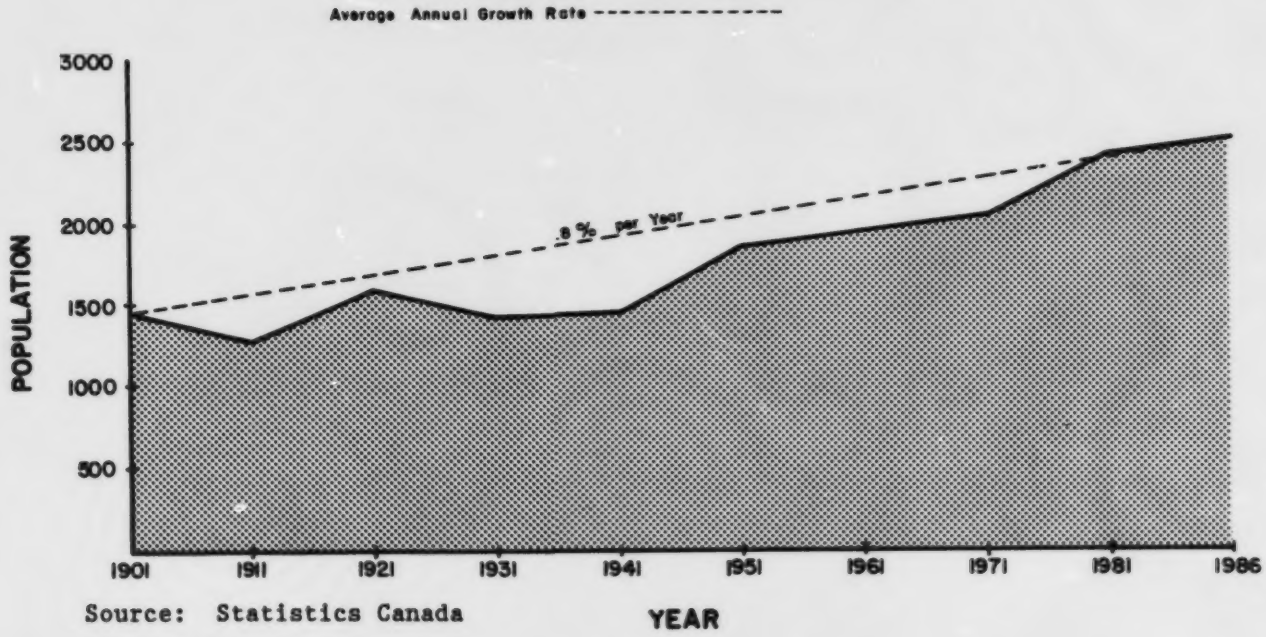
HISTORICAL POPULATION GROWTH, 1901 - 1986

Municipality	Year									
	1901	1911	1921	1931	1941	1951	1961	1971	1981	1986
Carman	1,439	1,271	1,591	1,418	1,455	1,867	1,930	2,030	2,408	2,500
Dufferin	2,322	2,556	3,071	2,847	3,177	3,176	2,899	2,598	2,707	2,622
Total	3,761	3,827	4,662	4,265	4,632	5,043	4,829	4,628	5,115	5,122

Source: Statistics Canada

FIGURE 4.1

HISTORICAL POPULATION GROWTH, 1901-1986



Source: Statistics Canada

The census year 1941 appears to be a point of change. Prior to 1941 the level of all urban development was relatively low with populations ranging from about 1,000 to 1,400. After 1941 all communities experienced substantial growth rates. Morden and Winkler, through industrial and commercial expansion, achieved the highest growth rates of 5.5 and 10.7 percent per annum respectively over the forty year period 1941-1981. Altona, Carman and Morris recorded much lower growth rates of 1.6 and 2.3 percent per annum over the same period. It is notable that from 1901 and 1951 Carman was the largest urban centre in the region. During the 1950's Altona, Morden and Winkler all recorded high growth rates, 4, 5, and 9 percent per annum respectively surpassing Carman which grew only .3 percent per annum. Carman now ranks as the fourth largest urban centre in the region.

TABLE 4.2

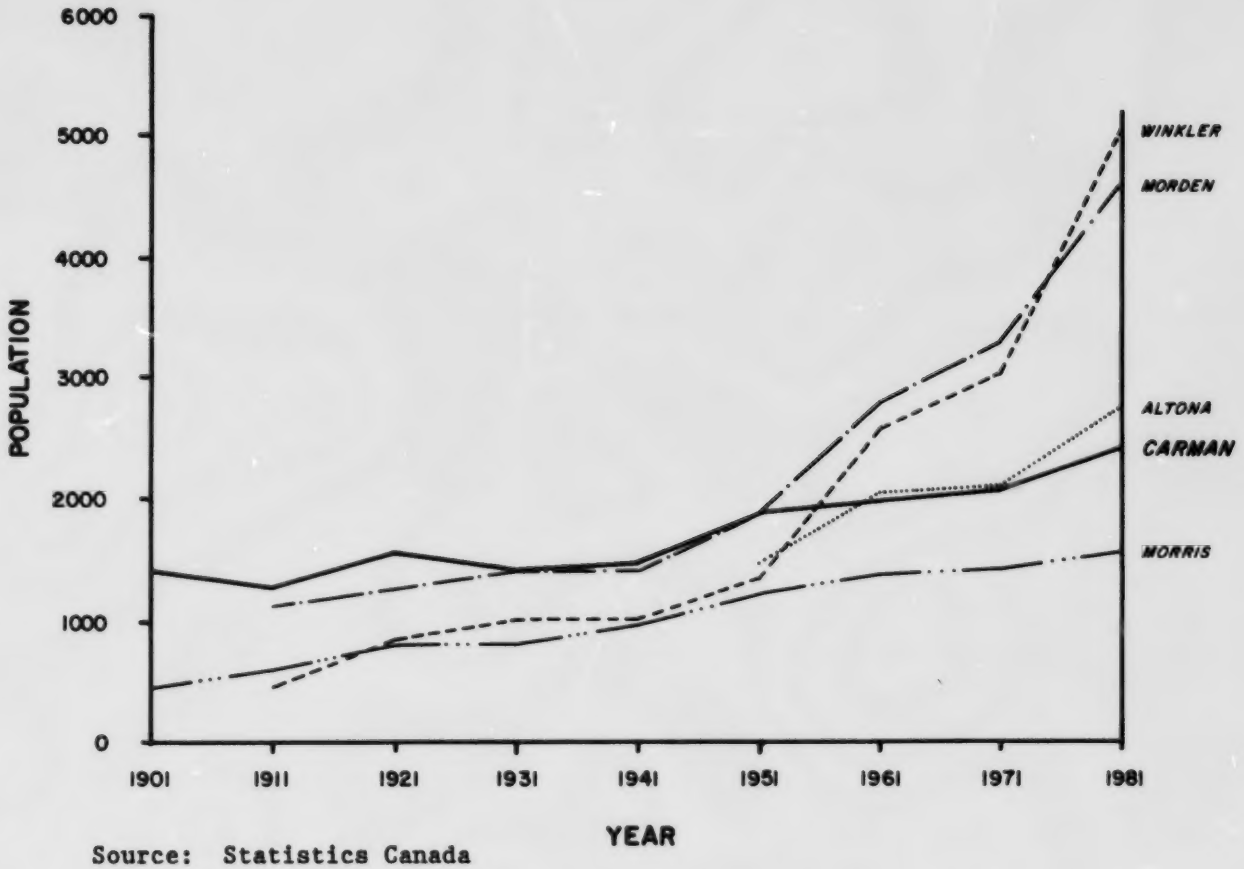
COMPARATIVE POPULATION GROWTH RATES, 1941 - 1981

Year	Carman		Altona		Morden		Morris		Winkler	
	Population	% Change	Population	% Change	Population	% Change	Population	% Change	Population	% Change
1941	1,455				1, 427		953		957	
1951	1,867	28.3	1,438	-	1,862	30.5	1,193	25.2	1,331	39.1
1961	1,930	3.4	2,026	40.9	2,793	50.0	1,370	14.8	2,529	90.0
1971	2,030	5.2	2,122	4.7	3,266	16.9	1,408	2.8	3,009	19.0
1981	2,408	18.6	2,757	29.9	4,579	40.2	1,570	11.5	5,046	67.7
Average Growth Per Annum		1.6		2.3		5.5		1.6		10.7

Source: Statistics Canada

FIGURE 4.2

COMPARATIVE POPULATION GROWTH RATES, 1901 - 1981



Source: Statistics Canada

4.3 Population Composition

The age - sex composition of the population is illustrated in Table 4.3 and Figure 4.3. Table 4.3 also compares Carman and Dufferin to the Province of Manitoba.

Particularly significant are the contrasts in the upper and lower age groups. Carman has a small percentage of young people and a large percentage of senior citizens while Dufferin experiences just the opposite.

Carman, Dufferin and Manitoba all show declines in the 1-19 year age groups indicating a declining birth rate in general. Carman is well below the provincial average for this group while Dufferin is above indicating rural birth rates are higher than those of Carman. Evidence of this is seen in the average family size of 2.9 in Carman compared to 3.8 in Dufferin.

Even greater contrast exists in the age group 65 years and over where Carman, at 26.6%, records more than double the Provincial average of 11.9%. Carman's percentage of elderly falls in line with regional demographic trends where unusually high proportions of older persons are living in small towns in Manitoba.[11] In Dufferin the elderly constitute only 7.5 percent of the population indicating an outward migration of this group.

The working age group, between 20 and 64 years, constitutes a smaller percentage of the population in both Carman and Dufferin than for Manitoba. This occurs in spite of the fact the "baby boom" population is passing through the employment age groups. This group is important because it is they who must support both of the non-working age groups. Under representation in this age group is, among other things, directly related to a lack of employment opportunities.

When the population of both municipalities is considered as a whole the irregularities in age groups even out somewhat. The combined 0-19 year age group comprises 34 percent of the population, equivalent to the Provincial average. In the 65 plus age group the combined population amounts to 16.5 percent which is 4.6 percent above the Provincial average while the 20-64 age group averages 6 percent below the Provincial level.

Viewed from a regional perspective it appears that Carman's population growth has been mainly due to elderly residents moving into town from the rural areas. The net result is an above average proportion of the population 65 years and over.

11 Aspects of Population Aging In Canada, National Advisory Council on Aging - Statistics Canada, Ministry of Supply and Services, Ottawa, 1981.

An aging population usually results in a re-allocation of resources from youth-oriented expenditures to social services better suited to the elderly. More specifically, housing needs may be different in terms of size, design and location. Community health and recreation facilities change in orientation to serve an older population. Although the migration of rural senior citizens into Carman will not continue indefinitely the aging of the Canadian population in general will likely maintain the current imbalance in the population structure.

4.4 Family and Household Size

The needs of the population are provided for in relation to the groupings in which people live. Households and families are both considered as basic social units and analysis based on these two units is useful in identifying changing social patterns. This section will compare these social units and emphasize the changes that have occurred. Families and households are defined as follows: a family consists of a husband and wife, with or without children living in the same dwelling while a household consists of a single person or group of persons living in the same dwelling and may include families.

Table 4.4 shows how the number of families and households have changed over the thirty year period 1951 to 1981. While the numbers of households and families have been increasing over the years, reflecting the increasing population, the average household and family size has been declining. The decline in average family size indicates the trend towards smaller families. The declining average size of households is an indicator of increased income levels, general prosperity, and social change.

TABLE 4.3

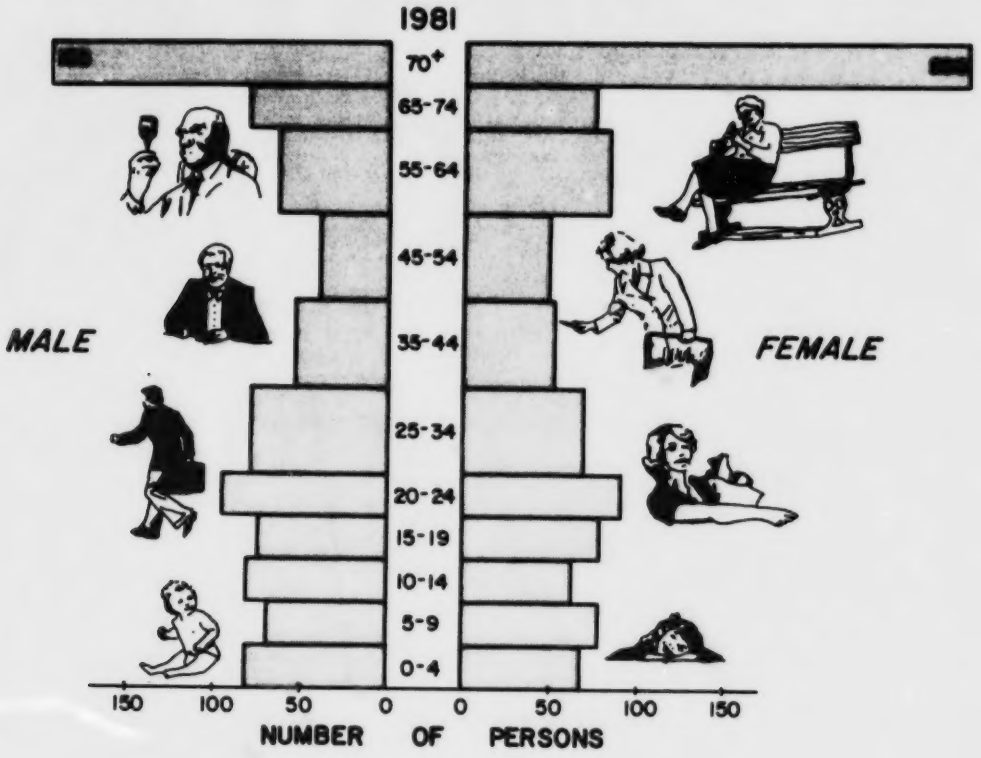
POPULATION COMPOSITION BY SPECIFIED AGE GROUPS

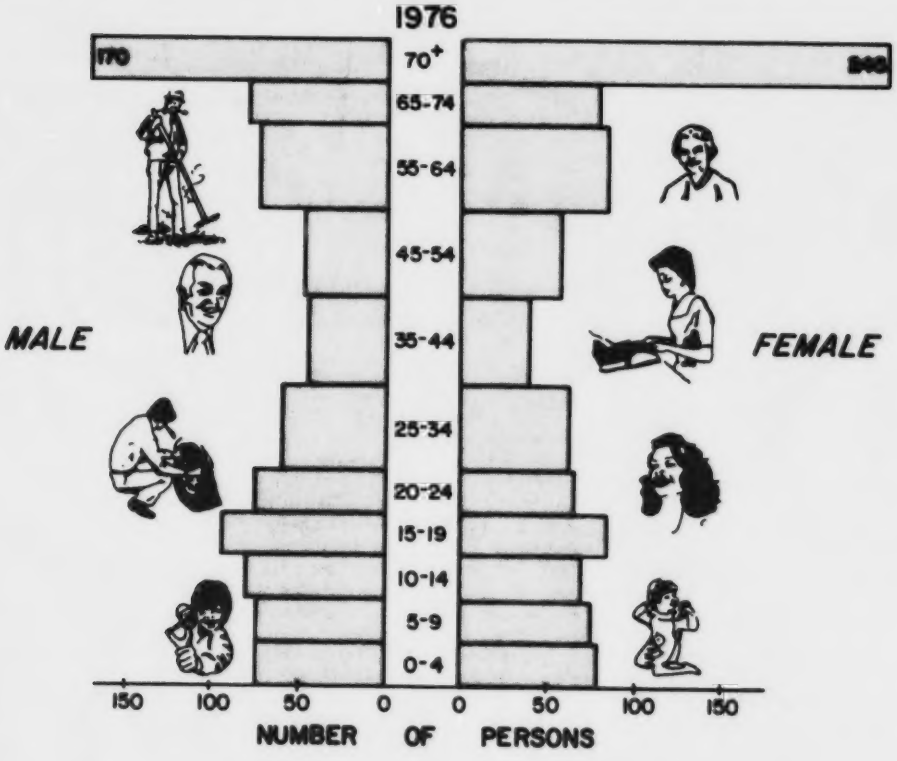
Age Group	Province of Manitoba		R.M. of Dufferin		Town of Carman	
	1976 %	1981 %	1976 %	1981 %	1976 %	1981 %
0 - 4	8.1	7.4	10.0	10.0	6.8	6.2
5 - 9	8.3	7.7	11.4	11.1	6.6	6.2
10 - 14	9.6	8.0	12.4	11.8	6.6	6.0
15 - 19	9.8	9.4	11.2	10.0	7.8	6.5
Subtotal	35.8	32.5	45.0	42.9	27.8	24.9
20 - 24	9.0	9.2	6.4	6.5	6.1	7.7
25 - 34	14.2	16.1	11.9	13.3	10.7	12.3
35 - 44	10.6	11.0	11.0	12.7	7.4	8.7
45 - 54	10.7	9.7	10.2	10.0	9.2	7.5
55 - 64	9.3	9.6	8.7	7.1	13.6	12.3
Subtotal	53.8	55.6	48.2	49.6	47.0	48.5
65 and over	10.4	11.9	6.8	7.5	25.2	26.6
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Statistics Canada

Figure 4.3

CARMAN AGE-SEX STRUCTURE , 1976 & 1981





Another notable trend pertains to the number of households occupied by families. In 1951, 87 percent of all households were family households. By 1961 this figure has dropped to 80 percent and by 1981 it was down to 67 percent. The decline in family households has been offset by increases in non-family households. This trend away from family households may be due in part to young people postponing marriage, but it is felt that the major portion of this change may be a result of the increase in the number of senior citizens in the population. In 1951 there were 72 more households than families and by 1986 the excess of households over families has increased to 364. The senior population and single adults largely account for this change which could translate to an increased demand for multiple-family housing.

TABLE 4.4

CHANGES IN FAMILY AND HOUSEHOLD SIZE, CARMAN, 1951 - 1986

Year	Population	No. of Households	Average No. of Persons Per Household	No. of Families	Average No. of Persons Per Family
1951	1,867	543	3.4	471	3.4
1961	1,930	588	3.2	470	3.4
1971	2,030	690	2.4	420	3.2
1981	2,408	975	2.4	655	2.9
1986	2,500	1,026	2.4	662	3.0

Source: Statistics Canada

4.5 Population Projections

Having an estimate of the future population is basic to community planning, but estimating population growth is difficult due to uncertainty about the future and changing conditions. However, a good understanding of the area's development potential and past growth rates help produce reasonable estimates of future population growth.

Carman's economy is based on agriculture and, compared to the industrial economic sectors, agriculture tends to be relatively stable and less subject to sharp fluctuations. Population growth over the past eighty years reflects this stability. Between 1901 and 1981 the average annual rate of population growth in Carman was a modest .8 percent, although between 1971 and 1981, it did experience a ten year growth rate of 1.9 percent. If Carman continues to grow at its long term rate of .8 percent per year it will attain a population of about 2,600 by 1991 and just over 2,800 by the year 2001. If the recent growth rate of 1.9 percent per year is maintained, a population of about 2,900 would be realized in 1991 and 3,500 in 2001. These growth rates represent increases of between 200 to 500 persons by 1991 and 400 to 1,100 persons by 2001. These projections are shown in Table 4.5 and Figure 4.4.

TABLE 4.5

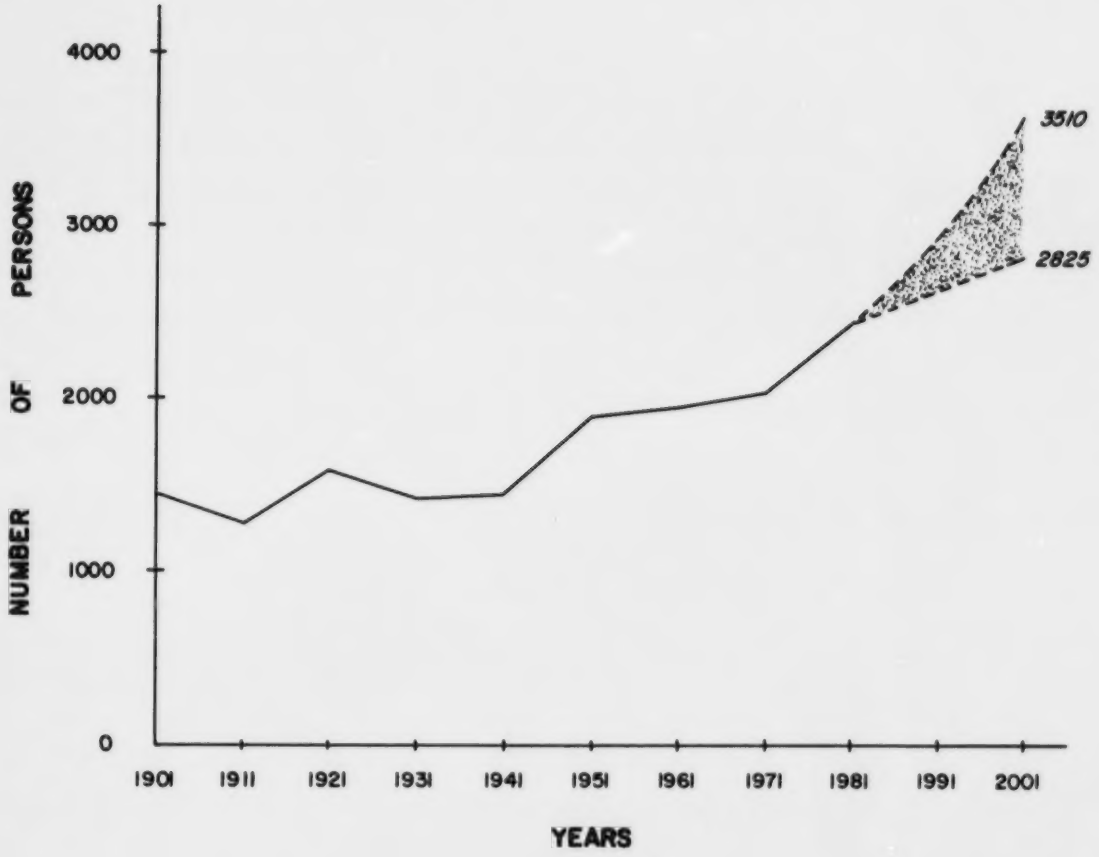
PROJECTED POPULATION GROWTH, 1981 - 2001

Year	Projection Based on Low Growth Rate of .8% Per Year			Projection Based on High Growth Rate of 1.9% Per Year		
	Population	5 Year Increase	Accumulated Increase	Population	5 Year Increase	Accumulated Increase
1981	2,408*			2,408*		
1986	2,506	98	98	2,650	238	238
1991	2,608	102	200	2,907	261	499
1996	2,714	106	306	3,194	287	786
2001	2,824	110	416	3,509	315	1,101

*Actual census figure for 1981

FIGURE 4.4

POPULATION PROJECTIONS, 1981 - 2001



Statistics Canada has recently released the population figures for the 1986 census showing Carman with a population of 2,500, 92 persons more than in 1981. This figure corresponds with the low population estimate for 1986 and indicates that, in the past five years, Carman's growth rate has declined from the high rate experienced in the 1970's.

4.6 Summary and Concerns

. Carman has a relatively steady and stable population growth rate of just under 1% per year.

- Carman's stable population growth is attributed to its agricultural economic base.

- The regional population (R.M. of Dufferin) has declined to the point that the population of Carman and Dufferin are about equal.

- The rural population had a slight increase between 1971 and 1981 which indicates a possible stabilization.

- Since 1941 Carman has dropped from the first to the fourth largest urban centre in the south central region of Manitoba.

- Carman has a lower percentage (24.9%) of young people (0 - 19 years) than the Provincial average (32.5%).

- Carman has a higher percentage (26.6%) of senior citizens (65 years and over) than the Provincial average (11.9%).

- Carman has a lower percentage (48.5%) of working age people (20 - 64 years) than the Provincial average (55.6%).

- Both the average family size and the average size of households have declined in the past 30 years.

- The percentage of family households has been declining while the percentage of non-family households has been increasing over the past 30 years.

- Estimates indicate that Carman's population will grow by 20 to 60 persons per year over the next fifteen years and that a population of 2,800 to 3,500 will be attained by the year 2001.

- Preliminary figures from the 1986 census show that Carman's population increased by only 92 persons between 1981 and 1986. This is in line with the low growth population estimate and indicates that the growth spurt experienced between 1971 and 1981 may have ended.

Chapter V
HOUSING

Chapter V - HOUSING

5.1 Housing Stock

The size and composition of Carman's housing stock is demonstrated by the data obtained in a land use survey conducted in 1987. According to this information, presented in Table 5.1, there are 1,026 residential dwelling units in Carman composed of 788 single family dwellings, 26 two-family dwellings, 131 multiple-family dwellings, and 81 mobile homes. The land use analysis noted the high percentage of residential land use devoted to single-family dwellings and the dwelling unit counts provided here confirm this phenomenon. Essentially Carman's housing stock is very homogeneous with single-family detached dwellings providing the preferred housing type.

In view of the substantial changes that have occurred in society in the past decade such as the postponement of marriage, the increasing labour force participation by women, and the increasing number of single parent families there may be a need for a greater variety of housing types. With the exception of senior citizen housing, Carman has a small number of apartment units. Of the 131 multiple-family dwelling units all but 31 are reserved for seniors. The three senior citizen apartments, Legion Lodge, Parkview Manor, and Evergreen Place contain approximately 100 units of housing for the elderly. The provision of such a large amount of seniors housing establishes Carman as a retirement centre.

There is one large mobile home park in Carman located in the northwest corner of town containing 81 homes with no vacant lots. The size of this trailer park and the low vacancy rate indicate an unusually high demand for this type of housing. One possible explanation is that mobile homes may be fulfilling the role of apartment housing.

5.2 Housing Growth and Trends

The growth in Carman's housing stock is demonstrated by household data provided by Statistics Canada. The household counts vary somewhat from the dwelling unit counts due to differences in definition.

TABLE 5.1

CARMAN HOUSING STOCK, 1987

Housing Type	Number of Units
Single-family	788
Two-family	26
Multiple-family	131
Mobile Home	81
Total Dwelling Units	1,026

Source: Municipal Planning Branch, Land Use Survey, 1987.

Census figures indicate there were 688 households in Carman in 1971. By 1976, 162 households had been added to the housing stock increasing the total to 850 and yielding an average growth rate of 5% per year. By 1981 a further 125 households had been added for a total of 975 and a growth rate of 3%. The last five year period saw an addition of only 51 bringing the total to 1,026 households for a growth rate of 1% per year. These figures indicate a declining rate of increase for housing in Carman.

In Section 4.4 the increase in non-family households and the decline in average household size was noted together with the opinion that demand for seniors housing contributed largely to these changes. The trend is further demonstrated in Table 5.2 which shows the changes in the number of persons per household. In the five years from 1976 to 1981 households with more than three persons declined by 4 percent and one person households increased by 4 percent.

TABLE 5.2

HOUSEHOLD COMPOSITION

No. of Persons Per Household	1976 No. of Households	1976 %	1981 No. of Households	1981 %	1986 No. of Households	1986 %
1	210	25	285	29	321	31
2	325	38	360	37	375	36
3	115	13	135	14	135	13
4 - 5	160	19	170	17	170	17
6 - 9	35	4	25	3	25	3
10+	5	1	-	-	-	-
	850	100	975	100	1026	100

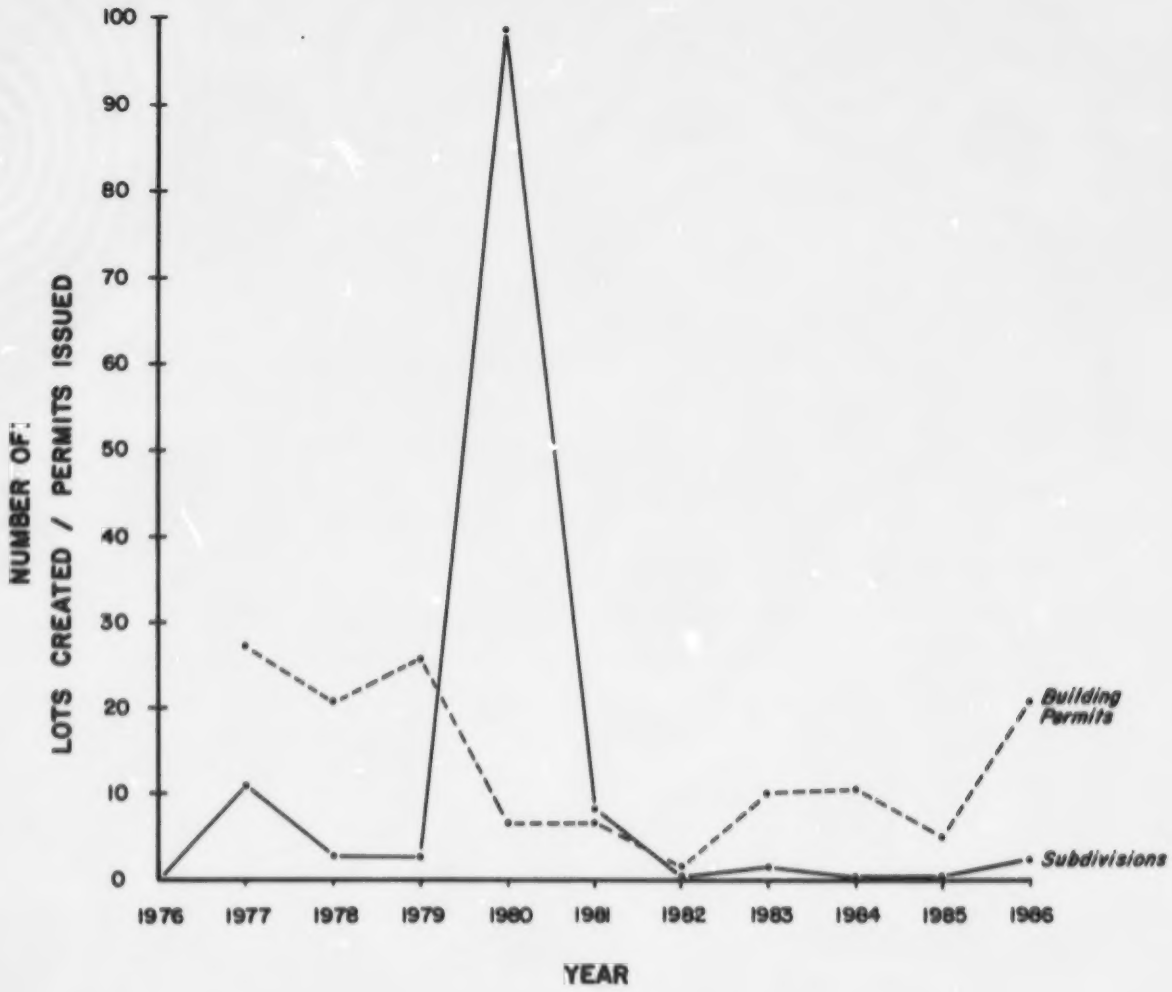
Source: Statistics Canada

Growth patterns in housing may also be seen by reviewing building permit and subdivision data. Dwelling unit starts were obtained from the Town of Carman municipal records. Figure 5.1 shows that building activity follows economic trends. Building activity was brisk in the late 1970's, declined with the recession in the early 1980's, and then began to pick up again in the mid 80's.

Subdivision activity is also shown in Figure 5.1. Typically, subdivision of land for residential purposes occurs in response to building activity and as a result the greatest number of residential lots were created in 1980 following an active building period. The subdivision of land stopped abruptly in response to the decline in building. Because there has been a large quantity of residential lots available subdivision activity has remained low for the past five years.

Figure 5.1

CARMAN SUBDIVISION ACTIVITY
and
RESIDENTIAL BUILDING PERMITS , 1976-1986



Sources: Subdivision Activity - Municipal Planning Branch, Morden
Building Permits - Town of Carman, Municipal Records

5.3 Housing Projections

Projected housing needs for the four census periods up to the year 2001 are presented in Table 5.3. Housing needs were based on the population projections for both high and low growth rates and on an average household size of 2.4 persons. These projections indicate that with low growth rates 8 or 9 additional households will be required each year or 41 to 46 households per five year period. Should high growth rates prevail, the number of additional households required could be in the range of 20 to 26 per year or from 99 to 131 per five year period. Preliminary counts from the 1986 census indicate that occupied private dwellings have risen by 51 units between 1981 and 1986. A comparison of the population growth to the increase in dwelling units shows that household formation has been occurring at a faster rate than the population. This is a result of an increasing number of single person households due in part to the number of seniors in the housing market.

TABLE 5.3

PROJECTED HOUSING NEEDS, 1981 - 2001

Time Period	Total Households Required	
	Low Growth	High Growth
1981 - 1986	41	99
1986 - 1991	43	109
1991 - 1996	44	120
1996 - 2001	46	131
1981 - 2001	174	459

5.4 Summary and Concerns

- Carman's housing stock has experienced a declining growth rate. The growth rate was 5 percent per year in the early 1970's but declined to 1 percent per year in 1986.

- Almost 80 percent of Carman's housing stock is single-family detached housing.

- The housing requirement of senior citizens is being met as it comprises approximately 10 percent of the housing stock.

- Mobile homes which account for 8 percent of the housing stock may be used as a substitute for multiple-family housing which only accounts for 3 percent of the housing stock.

- Households consisting of one person have been increasing while households with three or more declining.

- Residential building permits showed a substantial decline between 1979 and 1985 but have increased since 1986.

- Subdivision activity peaked in 1980 with the creation of 100 lots and has been negligible ever since indicating an adequate supply.

- Housing needs are estimated to be between 8 and 25 dwelling units per year over the next 15 years.

Chapter VI

ECONOMIC BASE

Chapter VI - ECONOMIC BASE

6.1 Introduction

[illegible] of Carmel's economic base will provide an understanding of [illegible] to provide [illegible] the economic [illegible] of the town. This information will [illegible] the ability of the town to provide jobs for its residents and to [illegible] sources of economic strength and prosperity for future growth. As mentioned in Chapter 1 [illegible] is located in a prosperous agricultural area and community has developed as an agricultural service center. Many economic [illegible] and [illegible] and [illegible] [illegible] [illegible]

TABLE 6.1

EMPLOYMENT BY INDUSTRY 1971 - 1981

	1971		1981		Change 1971-81	
	No. of ons	% of Total	No. of Persons	% of Total	No. of Persons	% of Total
		8.3	100	10.6	40	2.3
		8.3	100	10.6	40	2.3
		12.4	135	14.3	45	1.9
		6.2	60	6.4	15	0.2
		6.2	75	7.9	30	1.7
		73.1	680	71.9	150	-1.2
		7.6	45	4.8	-10	-2.8
		22.1	265	28.0	105	5.9
		3.4	40	4.2	15	0.8
		35.2	280	29.6	25	-5.6
		4.8	5.	5.3	15	0.5
		6.2	30	3.2	-15	-3.0
		100	945	100	220	0

Secondary industries with 14 percent of the labour force constitute the second largest employment group. Manufacturing and construction industries are included in this group.

The primary industries, agriculture, employ about 10 percent of Carman's labour force.

Table 6.1 shows changes in Carman's economic development since 1971. The period between 1971 and 1981 saw the addition of 220 people or a 30 percent increase in the total workforce. This growth was not evenly distributed as some economic sectors grew more than others and some experienced decline. Changes in certain industrial sectors had a greater impact on the community than others because they comprise a large proportion of the workforce. One notable change occurred in agriculture which increased its proportion of the labour force by 2 percent over 1971. The trade sector which increased from 22 percent of the labour force to 28 percent was offset by the community, business and personal service sector which declined from 35 to 29 percent of the labour force.

An interdependency exists between Carman and its surrounding area that should not be overlooked when analysing the employment structure. A large proportion of Carman's workforce is drawn from outside the town limits and for this reason a true picture of the workforce can only be seen by examining the employment structure of Carman, Dufferin, and the combined employment structure of Carman and Dufferin.

6.3 Dufferin's Employment Structure

Table 6.2 shows the employment distribution for the R.M. of Dufferin. The agricultural sector is the dominant industry. In 1981, 49 percent of the labour force was involved in farming or services incidental to agriculture, although this sector has experienced a declined from 60 percent of the labour force in 1971.

The tertiary industries, having about 43 percent of the labour force, are also significant in the R.M. of Dufferin. The reason for this may be the result of the method of data collection. Labour force statistics are collected according to home address and do not necessarily coincide with the

DUFFERIN, EMPLOYMENT BY INDUSTRY 1971 - 1981

INDUSTRIES	1971 No. of Persons	1971 % of Total	1981 No. of Persons	1981 % of Total	Changes 1971-81 No. of Persons	Changes 1971-81 % of Total
PRIMARY INDUSTRIES	650	59.9	600	48.8	-50	-11.1
-Agricultural	650	59.9	600	48.8	-50	-11.1
SECONDARY INDUSTRIES	55	5.1	65	5.2	10	0.1
-Manufacturing	20	1.8	30	2.4	10	0.6
-Construction	35	3.2	35	2.8	0	-0.4
TERTIARY INDUSTRIES	320	29.5	525	42.7	205	13.2
-Transportation, Communication & Other Utilities	40	3.7	50	4.1	10	0.4
-Trade	105	9.7	185	15.0	80	5.3
-Finance, Insurance & Real Estate	15	1.4	55	4.5	40	3.1
-Community, Business & Personal Services	130	12.0	175	14.2	40	2.2
-Public Administration & Defence	30	2.8	60	4.9	30	2.1
UNSPECIFIED OR UNDEFINED	60	5.5	40	3.3	-20	-2.2
TOTAL EMPLOYMENT	1,085	100	1,230	100	145	0

Source: Statistics Canada

place of employment. The result is that people who live on farms and who find employment in Carman are included in the tertiary industries for the R.M. of Dufferin. The number employed and growth of the tertiary industries since 1971, 13.2 percent, indicates a trend in which an increasing number of rural people are finding employment in the urban centre.

6.4 Carman - Dufferin Employment Structure

A more complete employment picture is seen when labour force figures for Carman and Dufferin are combined. In this way the total employment opportunities for each industry are shown. These combined figures are presented in Table 6.3. Agriculture, the primary industry shows a decline of 7 percent in the labour force. Although there were only 10 fewer persons employed, the growth in other industries resulted in a decline in agriculture from 39 to 32 percent of the labour force. Even with this decline a high proportion of the labour force is still employed in agriculture.

The secondary industries saw a small gain in the percentage of the labour force, but are still under represented compared to the percentage employed in manufacturing and construction for Manitoba as a whole.

A substantial increase was recorded in the tertiary industries which gained 355 persons and now employs 55 percent of the labour force. Within this industry the major gains were by the trade and finance, insurance and real estate sectors. This reinforces Carman's role as a market centre in which it serves as the principal retail trade and service centre for the region.

6.5 Agricultural Specialization

Carman's position as an agricultural service centre is confirmed by the types of existing businesses. Most of the firms in Carman provide a product or service that is directly linked to primary agriculture such as fertilizer and farm machinery sales, vegetable storage and processing, grain storage, and trucking. Furthermore, Carman has developed a specialization in agricultural service and products which sustains an industry that exceeds what the local population could support.

TABLE 6.3

CARMAN-DUFFERIN, EMPLOYMENT BY INDUSTRY 1971 - 1981

INDUSTRIES	1971 No. of Persons	1971 % of Total	1981 No. of Persons	1981 % of Total	Changes 1971-81 No. of Persons	Changes 1971-81 % of Total
PRIMARY INDUSTRIES	710	39.2	700	32.2	-10	-7.0
-Agricultural	710	39.2	700	32.2	-10	-7.0
SECONDARY INDUSTRIES	145	8.0	200	9.2	55	1.2
-Manufacturing	65	3.6	9.	4.1	25	0.5
-Construction	80	4.4	110	5.1	30	0.7
TERTIARY INDUSTRIES	850	47.0	1,205	55.4	355	8.4
-Transportation, Communication & Other Utilities	95	5.3	95	4.4	0	-0.9
-Trade	265	14.6	450	20.7	185	6.1
-Finance, Insurance & Real Estate	40	2.2	95	4.4	55	2.2
-Community, Business & Personal Services	385	21.3	455	20.9	70	-0.4
-Public Administration & Defence	65	3.6	110	4.6	45	1.0
UNSPECIFIED OR UNDEFINED	105	5.8	70	3.2	-35	-2.6
TOTAL EMPLOYMENT	1,810	100	2,175	100	365	0

Source: Statistics Canada

Previous studies have established that substantial portions of the sales of farm implement dealers in Carman are to customers residing well beyond the regional trade boundaries.[12] Thus the implement dealers fulfill on export function that supports and stabilizes the local economy. Carman is also developing a specialized function in fertilizer and pesticide sales and application and in corn marketing.[13] The progressive nature of farmers in the Carman area attracts investment in the agricultural support industries resulting in increased revenue and employment opportunities.

In turn, the growing agricultural sector has resulted in the expansion of the financial institutions beyond what the local market could support.[14] Growth of the agricultural and related services produces a multiplier effect which enhances Carman's ability to attract business and generate growth.

6.6 Retirement Function

Carman's status as a regional centre providing well developed consumer services has attracted large numbers of senior citizens.

As a result retirement facilities have developed into a secondary economic function. A number of reasons have contributed to the growth of the retirement sector. Carman's regional medical status, its well developed consumer services, and as previously mentioned the towns aesthetic qualities have all served to make Carman a desirable place to retire.

Three senior citizens apartment complexes and a personal care home have been built in response to the large senior component in the population. These facilities employ approximately 100 persons on a full-time basis and another 100 on a part-time basis.[15] In addition there is the impact of increased demand for consumer goods and services by this group.

12 The Impacts of Flooding On The Town of Carman, 1970 - 1980 With Projections For The Future, D. Freshwater, S. Coughlin, January 1982, p.19.

13 The Impacts of Flooding On The Town Of Carman 1970 - 1980 With Projections For The Future, D. Freshwater, D. Coughlin, January 1982, p.19.

14 Ibid.

15 The Impacts of Flooding On The Town Of Carman 1970 - 1980 With Projections For The Future, D. Freshwater, D. Coughlin, January 1982, p.22.

6.7 Recreational Function

The third component of Carman's economic base is the recreational function. With the excellent opportunities provided by the Boyne River Valley, Carman has been able to develop large area of land into regional recreational facilities such as the golf course, exhibition grounds, and campgrounds. As it was with the agricultural sector, these specialized facilities tend to attract people from outside the normal trade area thus providing injections of external money into the local economy.

6.8 Manufacturing

Carman has a small manufacturing base. This may be due in part to the strong competition provided by neighbouring communities and in part to a lack of positive industrial development policies. By adopting an industrial development strategy Carman may be able to strengthen this sector. Carman's specialization in the agricultural industries may enable it to attract more agricultural and food processing industries.

6.9 Carman's Trade Area

Economic activity in a community is generated from people living outside the municipal boundaries as well as from those within. It follows that the size and population of the trade area has a significant impact on the economy of that community. Carman's trade area, as defined by the Regional Analysis Program for Southern Manitoba, is shown on Map 6. This same study established the trade area population at just over 8,000 in 1971.[16] If the combined Carman-Dufferin growth rate of 10% over the past 15 years is applied to Carman's trade area, it would provide a current trade area population closer to 9,000.

With regards to size, Carman's proximity to a number of other communities in the Pembina Valley and the City of Winnipeg limit the size of its trade area. Reference to Map 6 indicates that Carman's trade area extends furthest to the west due to less competition in that area. The presence of Winnipeg severly limits the trade area to the north and east while both Morden and Winkler impose southerly restraints. The general

16 Regional Analysis Program - Southern Manitoba, Working Paper #2 Analysis of Community Functions and Relationships, p. 46.

retail function of Carman is limited by these competing centres and trade beyond these boundaries is only possible through the specialized functions such as those mentioned earlier.

6.10 Summary and Concerns

- The primary employment category in Carman is the tertiary or service industries (72%).

- The total workforce increased by 30% (220 persons) between 1971 and 1981 with most of this increase in the service industries in the area of trade.

- There is a very strong interdependence between Carman and Dufferin in the economic base and employment.

- An increasing number of rural people are finding employment in Carman.

- The combined employment figures for Carman and Dufferin show substantial gains in the service industries between 1971 and 1981 indicating Carman's growing role as an agricultural service centre.

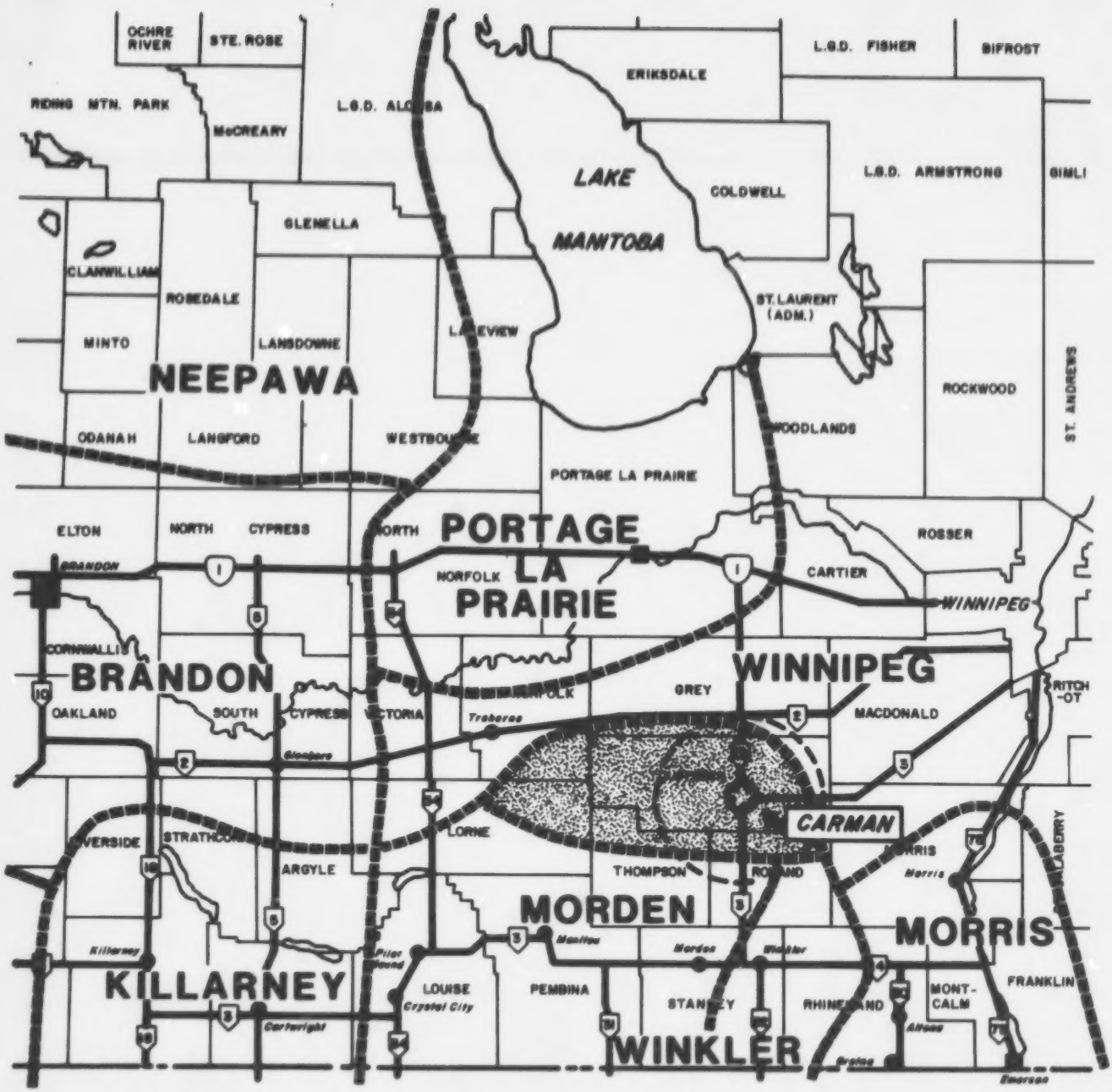
- The role of Carman's agricultural service sector has been strengthened by specialization through the agglomeration of this type of business, the development of export trade, and indirectly through well developed financial institutions.

- Retirement facilities provide a secondary economic function.

- Regional recreational facilities provide a third economic function.

- Carman has a small manufacturing base.

- Carman's general retail trade area is restricted in size due to the proximity of competing centres.



Source: Regional Analysis Program for Southern Manitoba,

Working Paper #2 Analysis of Community Functions and Relationships

TOWN OF CARMAN

MAP 6

BACKGROUND STUDY
To The
DEVELOPMENT PLAN

CARMAN
TRADE AREA

Chapter VII
MUNICIPAL SERVICES

Chapter VII - MUNICIPAL SERVICES

7.1 Introduction

Basic municipal infrastructure is a critical element of any urban development. Not only does it affect the standard and cost of living, it also affects the direction and degree to which new development may occur.

This Chapter will assess the capability of the municipal services to meet the demand and anticipated pressure from present development, identify problem areas requiring corrective measures, and specify the most logical areas for future growth.

In June of 1986, the Town of Caledon commissioned the firm of Reid Crowther and Partners Ltd. to evaluate the existing municipal services and identify inadequacies in the servicing systems or structures. Two engineering reports were subsequently prepared and submitted to the Town.

The first report was submitted in December of 1986. This report documented and evaluated the extent, condition, and performance of the existing municipal services based on the demands placed on these services by the present population. To evaluate the system, the report also provides the standard of service that is accepted or used by such organizations as the Insurer's Advisory Organization. In some cases priorities have been identified.

Because the background studies will form the basis for future land use decisions, a second report was prepared by Reid Crowther that deals with expansion capabilities of the existing systems. This report examines the direction and limits to the expansion of existing facilities without major expenditures.

The information provided in these reports will assist Council in making decisions on improving municipal services or deciding on future

expansion. It is not the intent of this Chapter to reproduce the material contained in the Reid Crowther reports but rather to review and highlight the findings. To be useful, this engineering information must be looked at in conjunction with the information contained in the land use, economic and population chapters. If more detailed information on services is required, the Reid Crowther reports should be consulted.

7.2 Water System

The present water supply for the Town of Carman is the Stephenfield Reservoir on the Boyne River system. Water from this source is impounded in two small reservoirs within the town boundaries. Water is then taken from the impoundment reservoirs and treated for distribution. An examination of the impoundment system and the distribution system has uncovered both minor and major concerns.

The first concern with the water system is the lack of complete and accurate records or more specifically engineering drawings of the existing distribution system and related facilities. The engineers report recommends that the accuracy of existing records be confirmed before any remedial work on the system is carried out.

Another problem discovered while analysing the system is related to water consumption. The recorded water consumption per capita appears to be higher for Carman than other Manitoba communities. The engineering report states that information provided by the flow metering equipment may not be accurate and the operation of this equipment should be checked and adjusted if necessary so that correct values can be used in evaluating the system. If the equipment is found to be accurate, the problem may be more critical, such as leakage.

Insufficient raw water storage for Vincer use and the need for additional storage to accommodate Vincer needs was another problem identified. The P.F.R.A. has recommended the construction of a Vincer storage reservoir near the town which would adequately serve current Vincer requirements. Additional Vincer storage will be needed once the Town's population exceeds 2,900. Immediate repairs to the existing raw water storage facilities were also recommended.

There is a significant disparity between the present capacity of the fire department and the optimum protection level desired. The present water system is incapable of providing water at a flow rate which is deemed acceptable for protection of commercial areas. Provision of higher flow rates would involve larger mains, pumps, and reservoirs. Additional treated water storage would be required to meet fire flow demands and significant upgrading of the water distribution system is needed before adequate fire protection to the community can be expected. Upgrading of the emergency power unit at the water treatment plant is also required.

A foreseeable problem is the pressure that will be placed on the existing distribution and pumping system if the system is extended beyond the present limits. It is recommended that the Town concentrate on providing adequate water supply and fire protection to the current serviced area before entertaining any extensions beyond the town boundaries. Extension of services may result in the limitation of future growth within the existing town boundaries as the design capacity of the system is reached.

On a positive note, the water treatment facility was found to be adequately sized for present maximum demands and the water quality is acceptable. The present water treatment plant capacity is adequate to serve a population of over 3,700 persons.

Preliminary costs to bring the water system up to an acceptable standard are:

Raw water supply	$ 441,000
Treatment works	$ 41,000
Increased storage	$ 115,000
Pumping and distribution works	$1,488,000
Total	$2,085,000

The present water distribution system is shown on Map 7. This map does not reflect the details of the system but it does show the location of the major water lines, major water facilities, priority expansion areas and the logical location of future water connections.

ce expansion areas, the engineering study states
ed with the least capital expenditure. Expansion
A or C with little cost differential. It is,
t servicing be completed in Area B before major
ertaken in other areas. It is in the Town's best
control residential development so that servicing
lly while at the same time ensuring development

7.5 Sewage System

nitary sewage collection, pumping, and treatment
need for a number of improvements in the near
system insufficient documentation of the sewer
concern. Comprehensive engineering drawings are
cument the extent, location, size and grade of
the structural and hydraulic condition of all
first priority should be to improve the monitoring
in the system can be identified accurately.

ates to infiltration and extraneous flows entering
. The present facilities were not designed to
es and volumes currently being introduced into the
the sanitary sewer system are overloaded during
g of the mains has been responsible for basement
. A program to restrict stormwater from entering
mmended.

age flowing through the system could only be
e estimated loading criteria the treatment works
city. However, because this may be partly due to
ecommended that flows be monitored and confirmed
is undertaken.

hat some mains in the collection system are over-
ons and a number are improperly graded. Regarding
recommmended that emergency standby equipment be

installed at the main lift station and all lift stations be equipped to monitor station performance. The cost of replacing overloaded mains along Main Street has been estimated at just under $200,000.

In summary the engineers report states that until such time as the sewer system is examined internally and the appropriate tests have been conducted to ascertain the present performance level estimates for rehabilitation are not meaningful. It is suggested the Town priorize the inspection work and proceed with a defined program.

The existing sewage treatment facility is comprised of four lagoons - two primary cells and two secondary. This existing lagoon system, from a biological stand point, has the treatment capacity to accommodate a population of 4,300 persons. Hydraulically, the lagoons may require additional storage volume to meet future needs. This additional storage requirement will depend on the population growth rate and the effectiveness of the reduction in the volumes of extraneous flows entering the sanitary system.

The present sewage collection system is shown on Map 8. This map indicates the major collection pipes as well as the location of major sewage facilities. The problem areas referred to in the engineering report are also identified on this map as well as the priority expansion areas for future development.

The existing gravity collection system can be extended to service the remainder of the proposed subdivision in Area B. Expansion of the sewage collection system into Areas A and C is severely restricted by the depth of existing gravity mains. In terms of economic feasibility, priority should be given to continued development of Area B. Following that, expansion of town's sewage collection infrastructure should proceed within Area C. Development in Area A will be the most expensive due to the requirement of more costly new installations and the upgrading of existing downstream mains.

7.4 Storm Drainage

Currently, much of the surface drainage is diverted into the sanitary sewer system resulting in overloading of mains, lift stations, treatment

works and the flooding of residential basements. The problem appears to result from a lack of overall drainage planning during construction of roads, curbs and gutters.

Previous engineering studies have documented the problems and presented recommendations to reduce stormwater entering the sanitary sewer system, however, few recommendations have been acted upon. Cost estimates indicate an overall expenditure of approximately $560,000 to $675,000.

The existing storm water drainage system is shown on Map 9. The areas encountering storm drainage problems are also identified on this map. Future expansion can occur in either of the expansion areas without significant cost differential. It is recommended that the least costly system would be an open ditch system as shown on Map 9. If the open ditch system is not desirable in these areas, a piped storm sewer system with control devices such as detention ponds is recommended.

7.5 Solid Waste Disposal

Solid waste disposal is provided through a municipal collection service. The waste disposal site is located approximately one mile southwest of the town. This site has been in operation for about ten years. Waste is accumulated above grade, burned, and then buried. A review of Carman's waste disposal site was conducted in 1985.

It was found that the site location is good but site operation and upkeep is poor. Dumping activities are carried out over a large area and exposed waste is left in piles throughout the active area without being centrally collected and burned. The waste disposal site does not pose a contamination threat to the Boyne River and potential aquifer contamination is also low.

The study recommended several improvements to the operation of the waste disposal site. They include cleaning up stewn waste along access roads, the separation of various waste types, the establishment of one central dumping and burning area, the collection and covering of exposed wastes at more frequent intervals, and the posting of signs to control dumping activity.

It is estimated the present disposal site has a remaining useful life of about three to five years and the report advises the Town begin investigation of a replacement site. For more detailed information the engineering reports should be consulted.

7.6 Transportation

Main arterial streets in Carman are composed of the regional highway network. Manitoba Highways and Transportation has jurisdiction over PTH No. 3 while the Town has jurisdiction over PTH No. 13 and PR No. 245 within the Town limits. The arterial streets serve to connect the various sections of town and provide access to the Provincial Highway System.

Collector streets are intended to accumulate and distribute traffic between local streets and arterials. It is recommended the collector system be designed to provide two alternative access routes from the residential areas they serve to the adjoining arterials. The engineering report recommends the designation of certain streets to complete the collector system. Streets recommended as collectors are 8th Street N.W. from 3rd Avenue N.W. north to the Town limits, 2nd Avenue S.E. from PTH No. 13 to 2nd Street S.E., 2nd Street S.E. from PTH No. 3 to 2nd Avenue S.E. and 4th Street S.W. from the Hospital to PR No. 245. Sixth Avenue S.E. and 3rd Street S.E. north to PTH No.3 should be added as development progresses in that area. These proposed collectors are shown together with a general classification of the street system on Map 10.

Arterial street rights-of-way are generally 99 feet wide except for widening near the Town limits. One lane of through traffic each way is provided with either angle or parallel parking. The engineering report notes that angle parking is dangerous and should gradually be phased out. Other streets are 66 feet wide with single travel lanes each way. Most streets are surfaced with asphalt pavement with the exception of a few minor streets on the outskirts which have a gravelled surface.

Generally the street system is reported to be in good condition. Although some maintenance problems have been encountered they are not considered critical or widespread and most could have been prevented through improved construction inspection methods. The most serious street problems

are related to inadequate drainage as discussed in the surface drainage section. To alleviate these problems the engineering report recommends that future street improvements be designed in accordance with an overall drainage plan.

Traffic control for all streets, except PTH No. 3, is under the authority of the Town of Carman. There is only one traffic signal light at the intersection of PTH No. 3, PTH No. 13, and PR 245. Although no serious traffic problems were noted the engineering report did make some recommendations. To alleviate the potentially dangerous angle parking it is suggested the Town adopt a policy to phase it out gradually. Stop signs were identified as being installed too low and generally in poor condition through aging. A planning program of replacement is recommended. A problem of heavy truck traffic on 8th Street N.W. and Centre Avenue was noted. This problem could be eliminated through the development of an industrial park which would divert truck traffic from residential areas. Designated truck routes can reduce the problem for the present time.

7.7 Summary and Concerns

- The water system lacks complete and accurate records of the existing distribution system and related facilities and these should be completed before any remedial work is performed.

- Water consumption readings are abnormally high. Flow metering equipment should be checked as accurate readings are essential in evaluating the system.

- There is a shortage of raw water storage for winter use. Repairs to the existing raw water storage facilities and the construction of a new storage reservoir are recommended.

- The present capacity of the water system is below the suggested fire flow. Significant upgrading of the system is required before adequate fire protection can be delivered.

- Water quality is acceptable and the water treatment facility is adequate to a population of 3,700.

- Extension of water service should be delayed until such time as the supply and distribution system is upgraded.

- Preliminary cost estimates for the various proposed works discussed in the engineering report are $2,788,000.

- The sewage system lacks complete and accurate records. Comprehensive drawings are required as well as the structural and hydraulic condition of all piping before and remedial work is done.

- All components of the sewage system are overloaded during wet periods due to infiltration. A program to restrict stormwater from entering the sanitary sewers is recommended.

- The existing lagoon can biologically meet the needs of a population of 4,300 persons, but, hydraulically additional storage will be required depending on growth rates.

- It is recommended that the volume of sewage flowing through the system be monitored and confirmed before any upgrading is undertaken.

- Some sewage mains are undersized and improperly graded. Replacing overloaded mains along Main Street will cost about $200,000.

- Emergency standby equipment should be installed at the main lift station and all lift stations should be equipped to monitor station performance.

- The problem of surface drainage entering the sanitary sewer system results from a lack of overall drainage planning during construction of roads, curbs and gutters.

- Stormwater control measures are estimated to cost between $560,000 and $675,000.

- The solid waste disposal site is well located and does not pose problem of contamination to the Boyne River or ground water acquifers.

- Disposal site operation and upkeep is poor and several improvements are recommended.

- The disposal site has a remaining life span of about three to five years and the town is advised to begin investigation of a replacement site.

- Arterial streets in Carman are composed of the regional highway system.

- It is recommended that collector streets have two access routes from the residential areas they serve.

- Several additions to the collector street system are recommended.

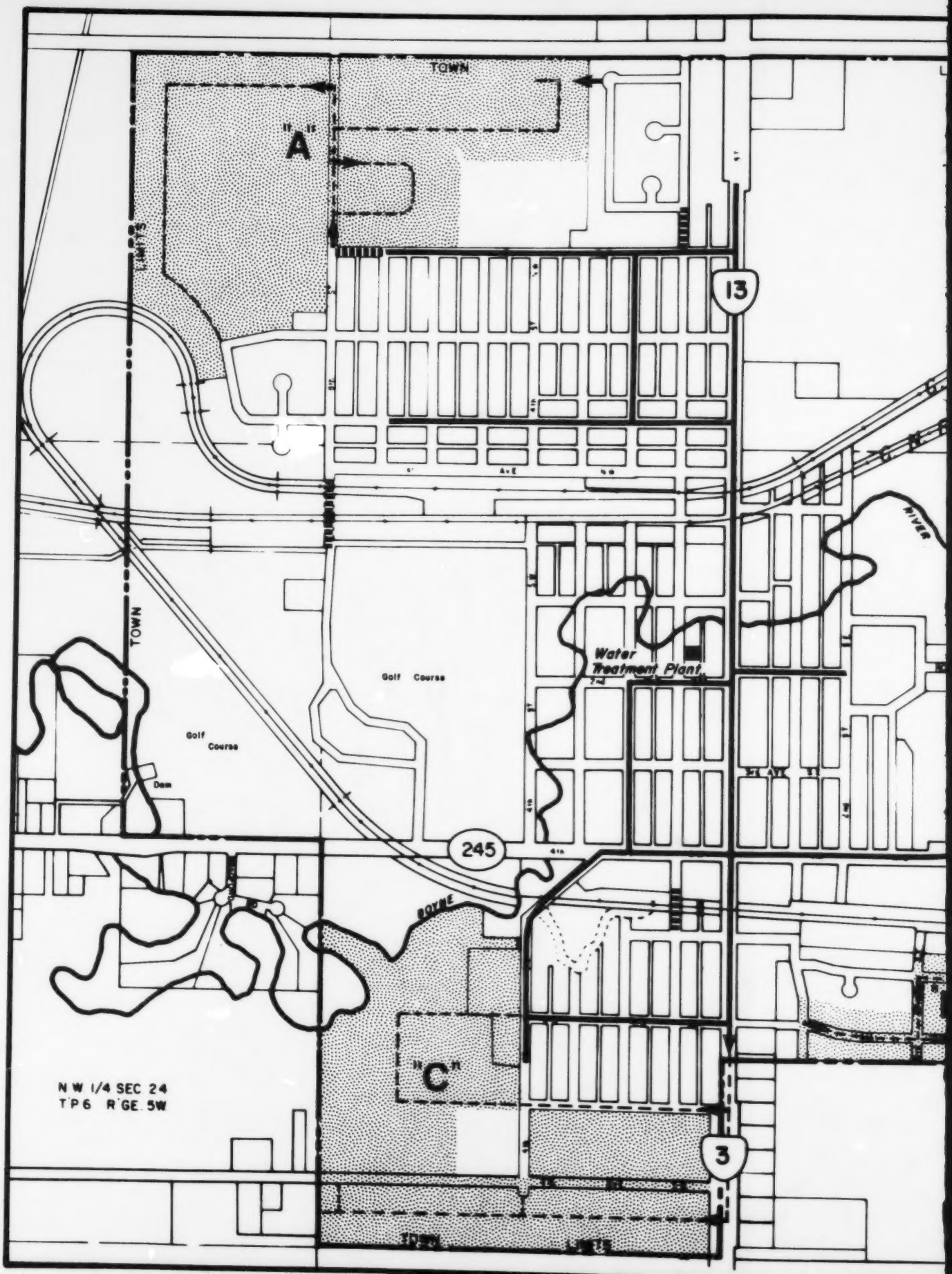
- Generally the street system is reported to be in good condition.

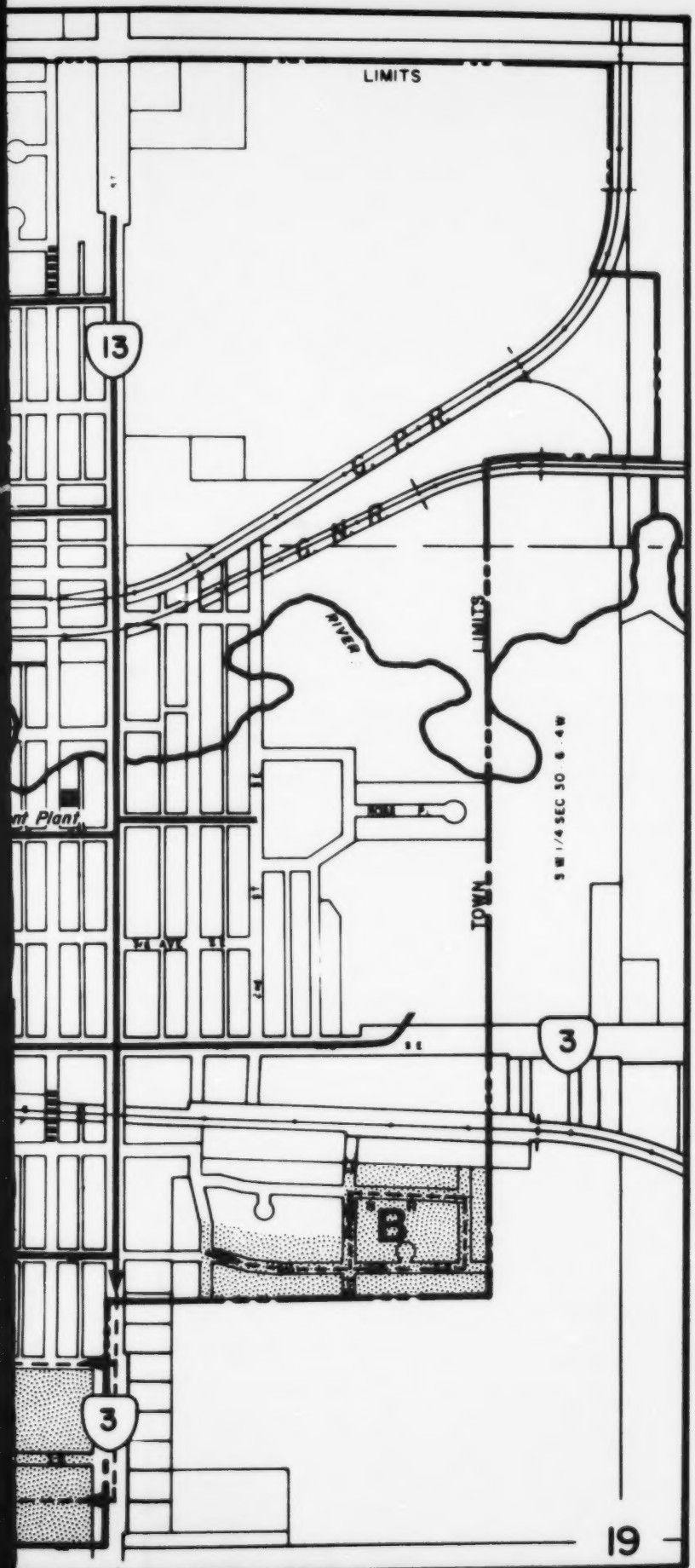
- Angle parking should be phased out.

- Truck traffic should be controlled in the short term by means of designated truck routes.

- Stop sign improvements and replacement is recommended.

- Future street improvements should be designed in accordance with an overall drainage plan.


TOWN
A
13
TOWN
Golf Course
Golf Course
Dam
Water Treatment Plant
RIVER
245
BOYNE
"C"
3
NW 1/4 SEC 24
TP 6 RGE. 5W



Map No.7

TOWN OF CARMAN

BACKGROUND STUDY

To The

DEVELOPMENT PLAN

Legend:

- Water Main Upgrading
- Future Expansion
- Proposed Link
- Water Treatment Tower
- Future Development Areas which may be connected to existing system without Major Capital Expenditures.
- Possible Connection to Existing Mains

Source:

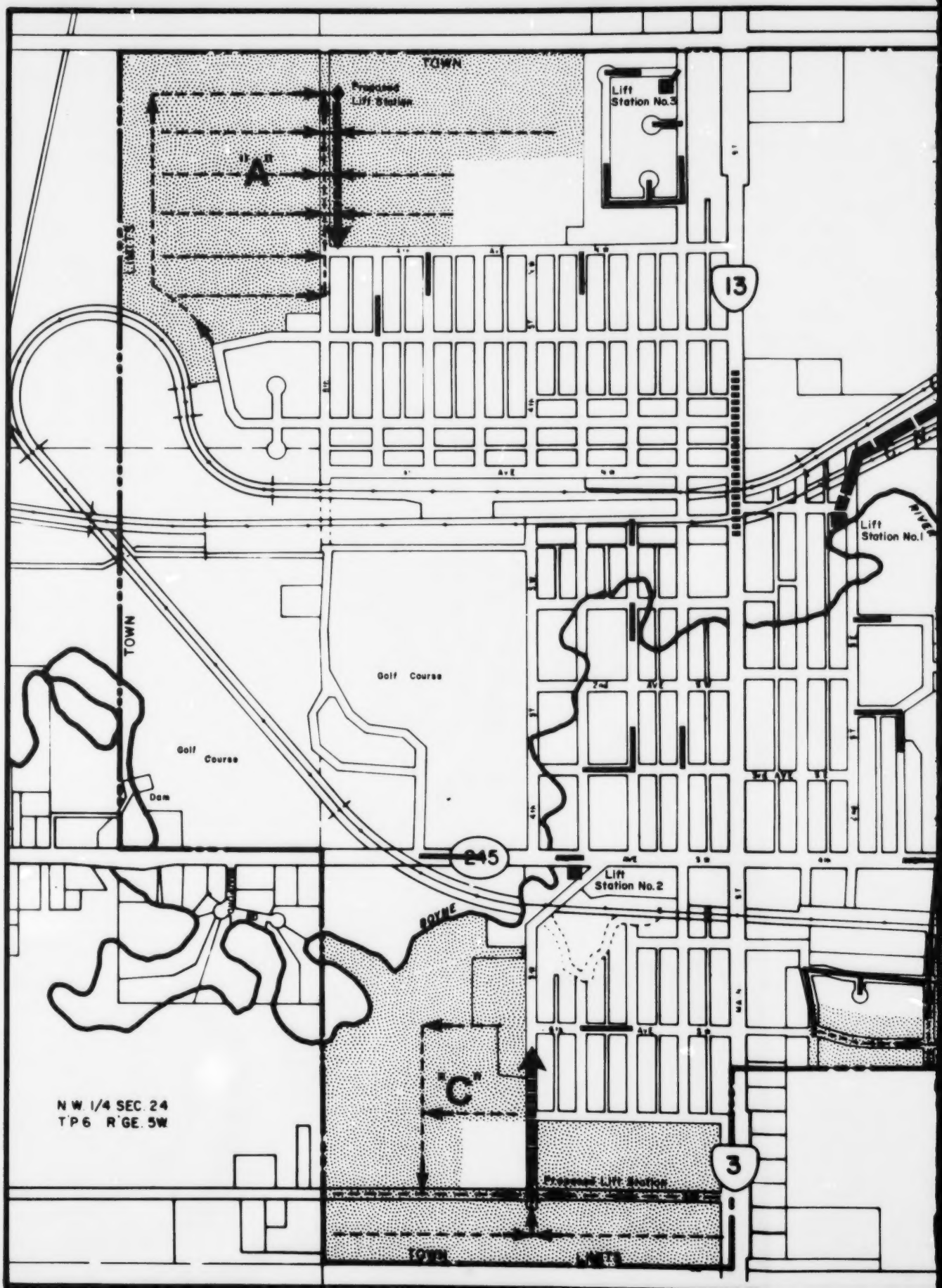
Reid Crowther (Carman Background Infrastructure Study)

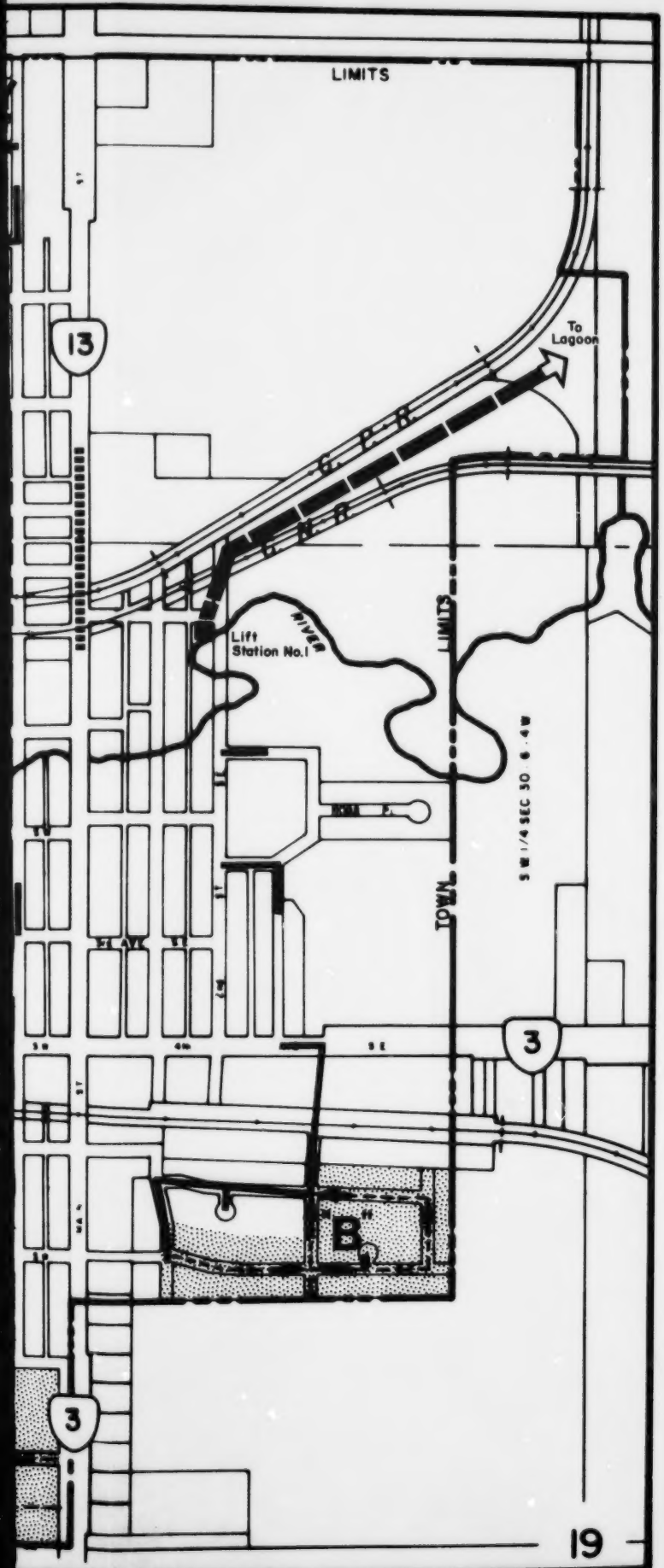
WATER DISTRIBUTION SYSTEM

400 0 400 800
SCALE IN FEET

Manitoba
Municipal Affairs
Municipal Planning

DATE: MAR. 1988	DRAWING NO. 409-70-106
REVISED	DRAWING NO.


TOWN
Proposed Lift Station
"A"
Lift Station No.3
13
TOWN
Golf Course
Golf Course
Dam
245
Lift Station No.1
Lift Station No.2
BOYNE
"C"
NW 1/4 SEC. 24
TP 6 RGE. 5W
3
Proposed Lift Station
TOWN



Map No.8

TOWN OF CARMAN

BACKGROUND STUDY

To The

DEVELOPMENT PLAN

Legend:

- Below Minimum Sewer Grade
- Inadequate Sewer Main Capacity
- Future Expansion
- Existing Force Main
- Future Force Main
- Existing Lift Station
- Proposed Lift Station
- Possible Connection to Existing Collection System
- A — Future Development Areas serviceable to existing collection systems without Major Capital Expenditure.

Source:

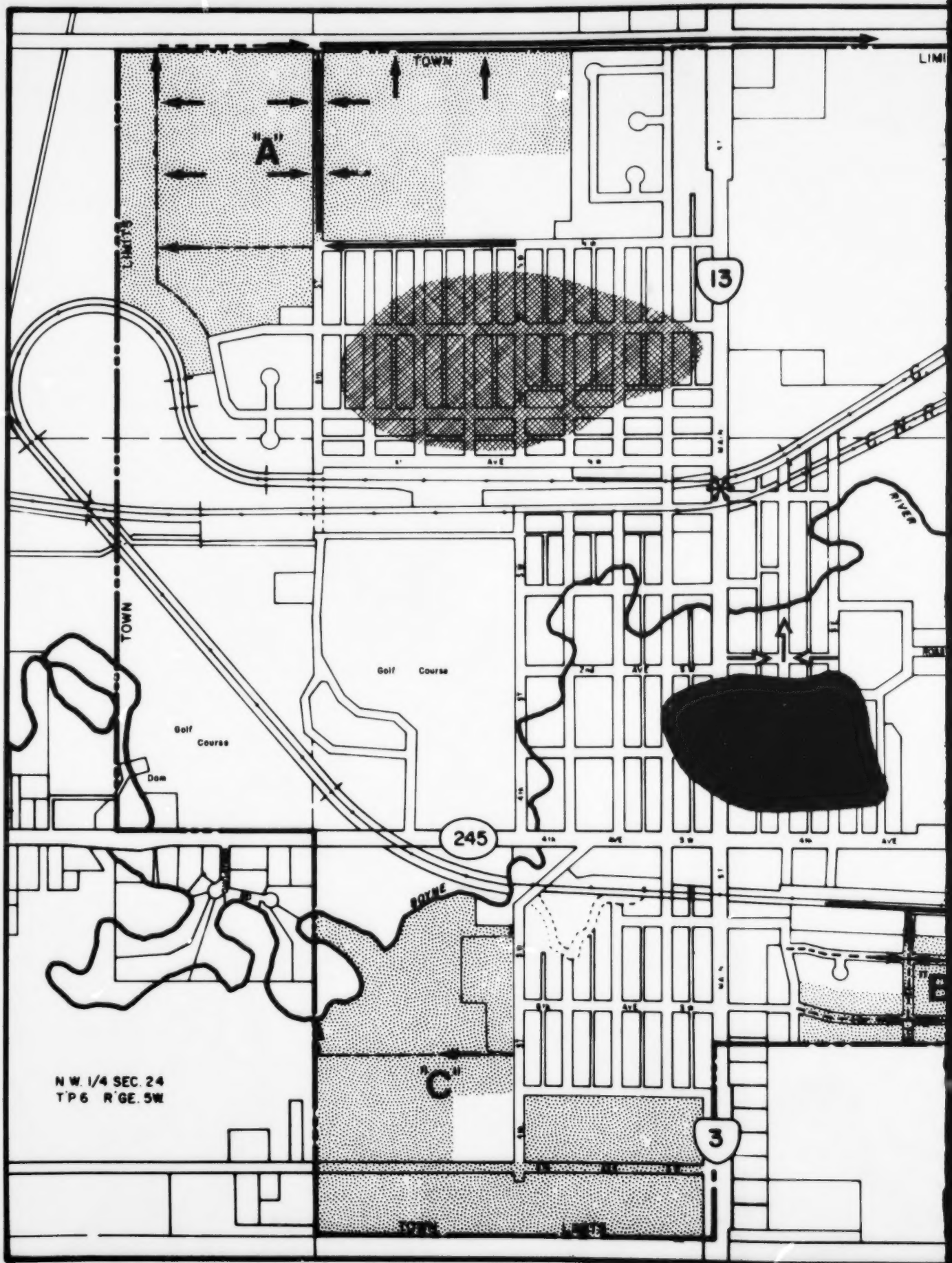
Reid Crowther (Carman Background Infrastructure Study)

SEWAGE COLLECTION SYSTEM

400 0 400 800
SCALE IN FEET

Manitoba
Municipal Affairs
Municipal Planning

DATE: MAR. 1988	DRAWING NO. 409-70-107
REVISED	DRAWING NO.


TOWN
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Dam
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BOYNE
"C"
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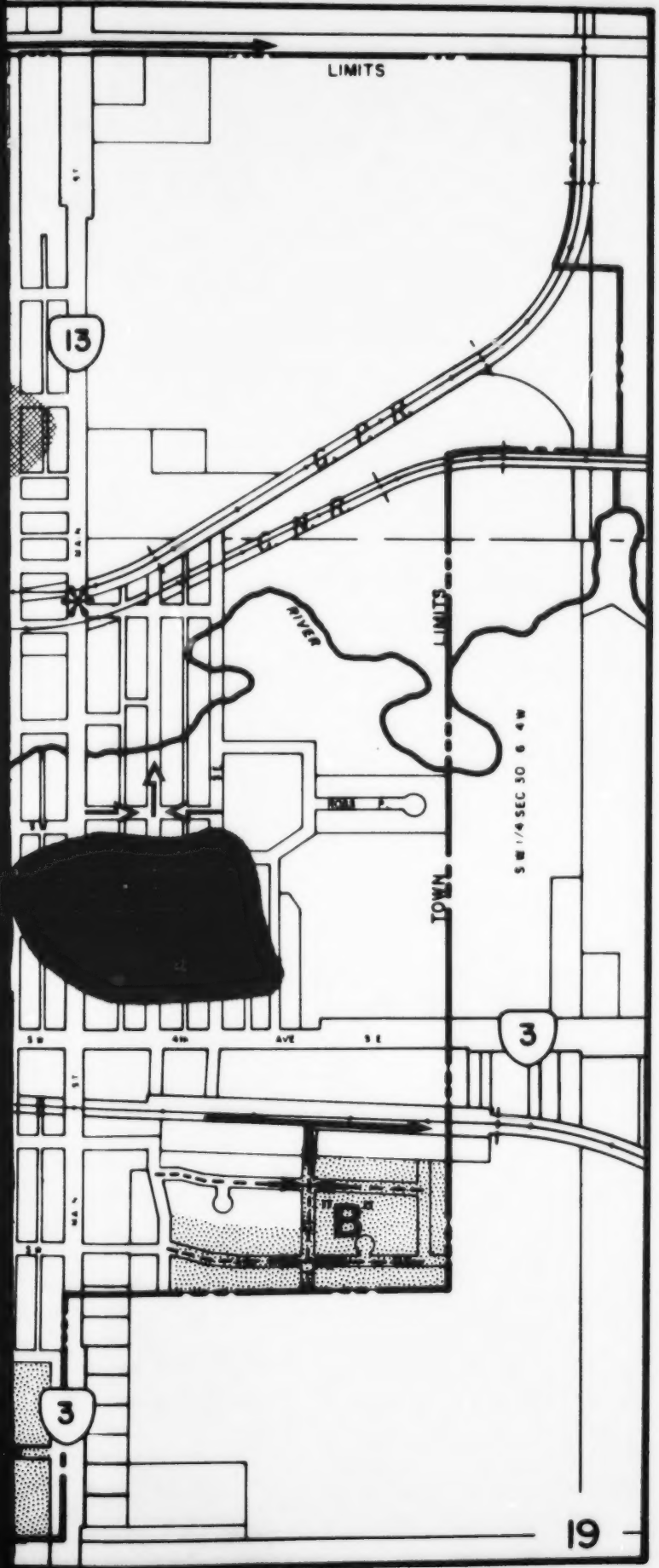
N.W. 1/4 SEC. 24
T.P.6 R.GE. 5W



Map No.9

TOWN OF CARMAN

BACKGROUND STUDY

To The

DEVELOPMENT PLAN

Legend:

- Existing Drainage
- Proposed Drainage
- Direction of Drainage Flow
- Future Development Areas
- Flood Potential Area due to Storm Water Entering Sanitary Sewer
- Flood Potential Area due to Local Ponding
- Proposed Storm Sewer
- Storm Water Restriction

Source:

Reid Crowther (Carman Background Infrastructure Study)

H.V. Friesen (Carman Storm Water Drainage Study)

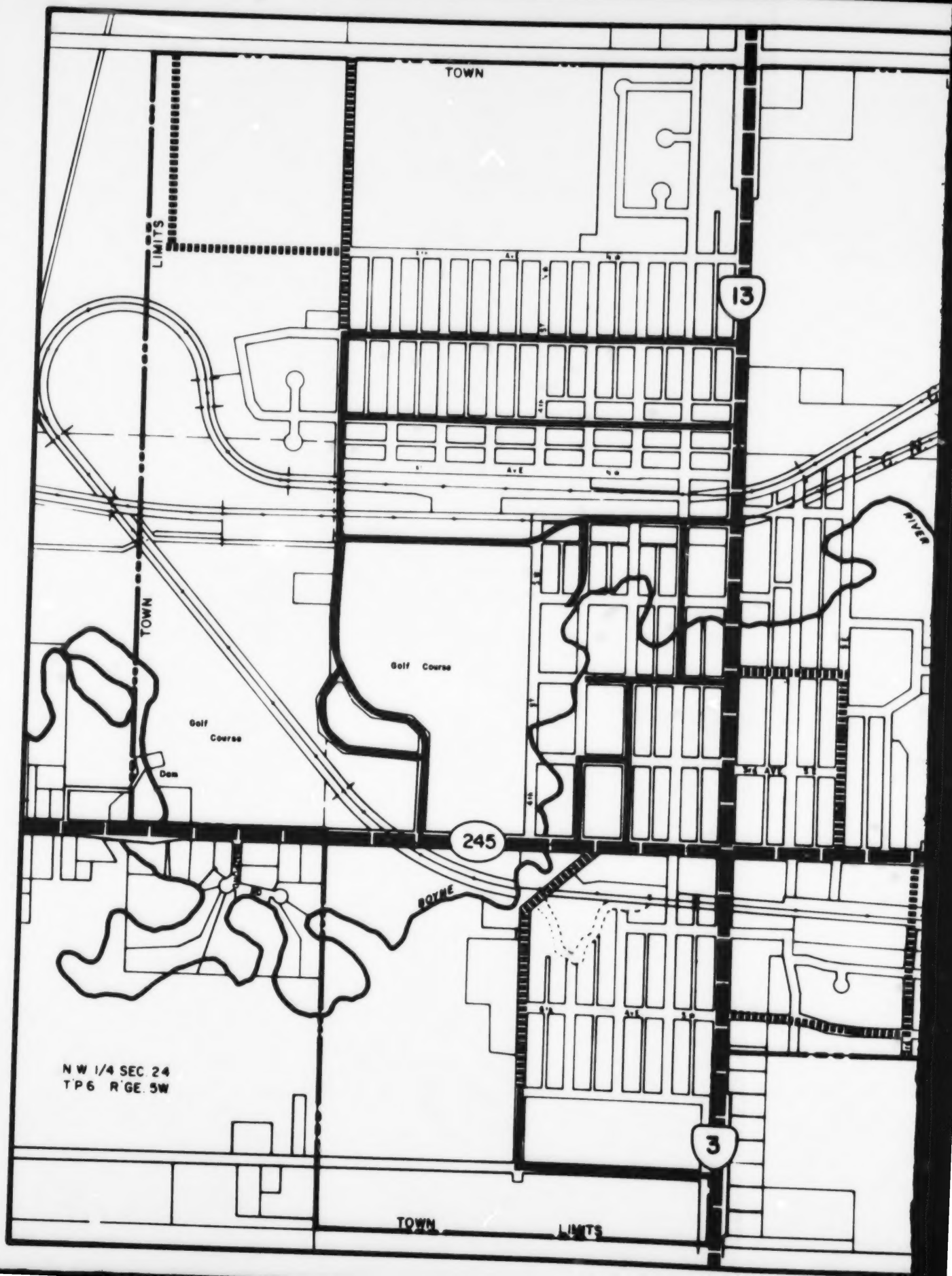
STORM WATER DRAINAGE SYSTEM

400 0 400 800

SCALE IN FEET

Manitoba
Municipal Affairs
Municipal Planning

DATE: MAR. 1988	DRAWING NO. 409-70-108
REVISED	DRAWING NO.


TOWN
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NW 1/4 SEC 24
TP 6 R GE. 5W
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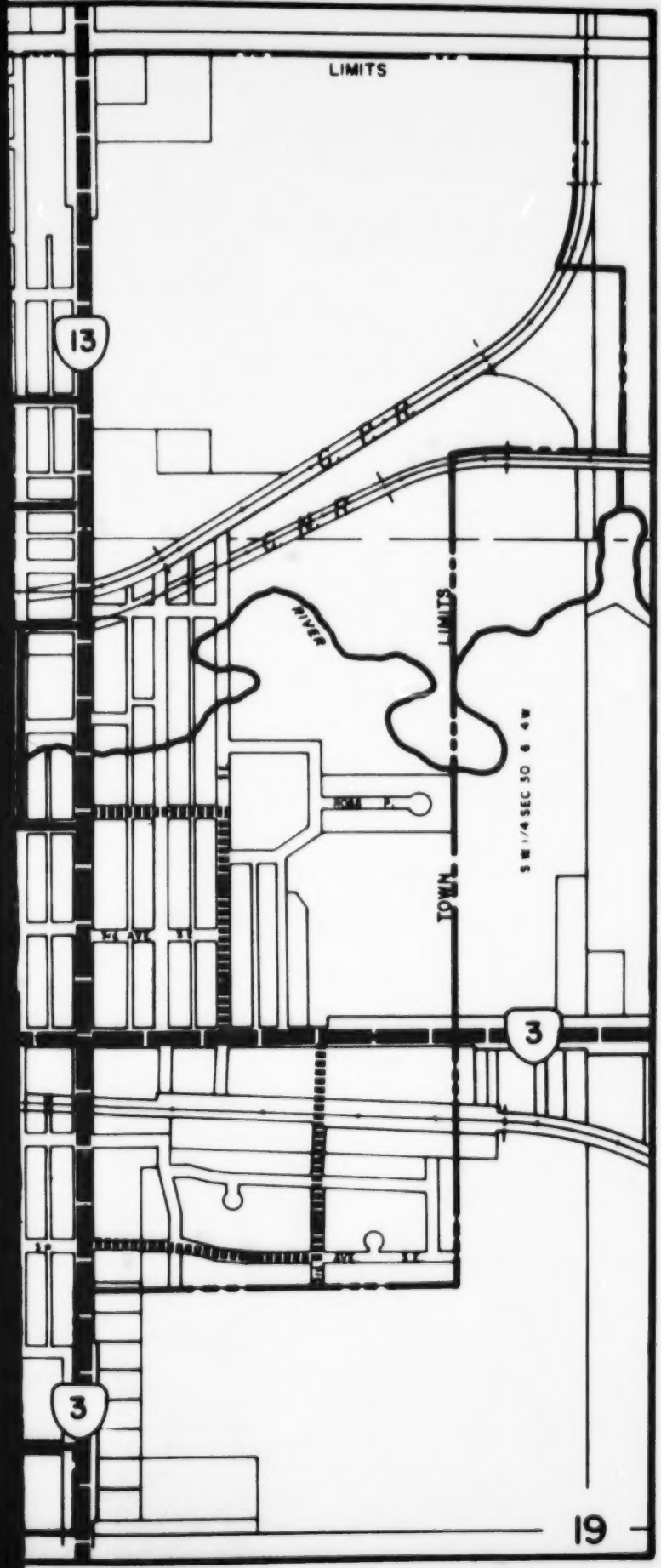
TOWN
LIMITS



Map No.10

TOWN OF CARMAN

BACKGROUND STUDY

To The

DEVELOPMENT PLAN

Legend:

- Arterial Street
- Collector Street (Eligible for Grant-in-Aid)
- Proposed Collector Street

Source:

Reid Crowther (Carman Background Infrastructure Study)

TRANSPORTATION SYSTEM

400 0 400 800

SCALE IN FEET

Manitoba
Municipal Affairs
Municipal Planning

DATE: MAR. 1988	DRAWING NO. 409-70-109
REVISED	DRAWING NO.

Chapter VIII
MUNICIPAL FINANCE

Chapter VIII - MUNICIPAL FINANCE

8.1 Introduction

Municipal councils are invariably faced with the task of having to weigh the costs and benefits of planning policies and new development when making decisions regarding changes in the community. Any analysis of the present and future financial position of the community is a necessary tool of the policy-maker in the formulation of a development plan. The purpose of this Chapter is to determine Carman's current financial position and future borrowing capacity.

The objective of this financial analysis is to assess Carman's ability to raise the necessary funds in providing basic municipal services and the relative costs of these services to the taxpayer. This includes determining the financial position of Carman in relation to that of other communities of similar size and servicing characteristics. The communities used to establish standards against which Carman was compared were the Towns of Altona, Beausejour, Killarney and Minnedosa. The main criteria for selecting these communities were population, local servicing characteristics and geographic location.

8.2 Municipal Assessment Base

Municipal governments raise the majority of their annual financial requirements by levying taxes on local properties. Assessment is important because it forms the basis for calculating municipal property tax revenue. Trends in the growth of local taxable assessment are an indicator of general financial and economic health.

Table 8.1 shows Carman's assessment base over a fifteen year time period. Local assessments for individual properties do not change unless there is a re-assessment. Consequently a steady growth in assessment reflects a steady increase in the number of residences and businesses. Table 8.1 appears to indicate steady increases in all assessments, however,

Carman underwent re-assessment in 1975 and 1985 which shows up on the 1976 and 1986 assessments. When allowances for re-assessment are made, the real growth in Carman's assessment base is very small, especially in the 1981-86 period. In fact, discussion with local assessment officials revealed that, after deducting new construction, the existing assessment actually decreased. The only figure that increased substantially, business assessment, did so because of a change in the method of calculation and tax rates were adjusted to maintain the business tax at its previous level. This adjustment can be seen in Table 8.2 which shows Carman's business tax rate dropped from 8 to 5 percent between 1981 and 1986.

Table 8.2 shows the changes in the mill rates for commercial and residential categories over a fifteen year period. The education mill rate increased steadily over this period while the general municipal mill rate increased between 1971 and 1976 to 60.5 then declined slightly and levelled off at 58.0. Bearing in mind the small assessment increases education costs have been steadily increasing while municipal servicing costs have been kept to a minimum.

Carman's assessment base was also examined in relation to the base-line levels of the comparable communities. Table 8.3, in which this data is presented, shows that Carman has lower assessment levels in all areas except personal property which is the smallest assessment component and does not significantly affect total assessment.

Also shown in Table 8.3 is the assessment composition which describes the relative tax burden borne by each group of taxpayers. A high ratio of residential assessment to total assessment indicates that residential taxpayers bear a greater proportion of municipal costs. In Carman, residential assessment comprises 76 percent of the total and commercial assessment only 24 percent. The average for all five communities shows a ratio of 72 percent to 28 percent respectively for residential and commercial assessment. In other words, Carman has a lower proportion of commercial assessment and its residential taxpayers must bear a greater proportion of municipal costs.

TABLE 8.1

ASSESSMENT BASE, 1971 - 1986

	Amount ($000)			
	1971	1976	1981	1986
Land Assessment	920	1,208	1,374	1,564
Building Assessment	2,814	3,587	5,227	5,352
Personal Property Ass.	67	84	98	129
Total Taxable Ass.	3,801	4,879	6,699	7,045
Business Assessment	153	160	250	335
Exempt Property Ass.	730	1,469	1,528	1,858
Equalized Ass. (EA)	3,663	4,435	6,858	7,473
30% of EA	1,099	1,330	2,057	2,242

Source: Department of Municipal Affairs, Municipal Advisory and Financial Services Branch

TABLE 8.2

CARMAN COMMERCIAL AND RESIDENTIAL TAX RATES, 1971 - 1986

COMMERCIAL	1971	1976	1981	1986
Education (Mills)	43.6	73.5	91.7	125.9
General Municipal (Mills)	39.7	60.5	58.8	58.0
Total Tax Rate *	83.3	134.0	150.5	183.9
Business Tax (%)	8	8	8	5
RESIDENTIAL				
Education (Mills)	18.8	42.5	57.9	82.3
General Municipal (Mills)	39.7	60.5	58.8	58.0
Total Tax Rate *	58.5	103.0	116.7	140.3

* Does not include Special Area Levies.

Source: Manitoba Department of Municipal Affairs, Municipal Advisory and Financial Services Branch.

TABLE 8.3

COMPARATIVE ASSESSMENT BASE, 1986

	Baseline	Carman
Land Assessment	1,635	1,564
Building Assessment	6,074	5,352
Personal Property Assessment	105	129
Total Taxable Assessment	7,814	7,045
Residential Assessment	5,657	5,329
As a % of Total Assessment	72	76
Commercial/Industrial Assessment	2,158	1,716
As a % of Total Assessment	28	24

8.3 Revenue Sources

The relative importance of Carman's revenue sources is demonstrated by the figures shown in Table 8.4. Monies raised through taxation has historically provided 75-80% of the revenue for Carman. In 1986, the actual dollars raised through taxes declined but the percent of the total revenue increased. During the period considered, revenues were greatly influenced by government contributions which rose from 10% of revenue in 1971 to almost 16% in 1976 then gradually declined to about 12% in 1981 and 1986. The category of other revenues remained relatively constant over this period and business taxes represent a small percentage of total revenue so the influence of government contributions is reflected in the taxation column. It is notable that business taxes have shown a continual decline in actual value and as a percentage of total revenue reflecting a decline in economic health.

A more detailed examination of revenue sources is also provided in Table 8.4 where a constant dollar approach is used to compare revenues through time. The advantage of this approach is that it avoids the problem of estimating inflation and allows for direct comparisons from one time period to the next. The constant dollar figures were derived by using the inflation factors prepared by Statistics Canada, thus removing the inflation component, and adjusting all revenues to 1986 values.

Revenue generated through taxation increased from 1971 to 1981 then dropped in 1986. The figures show a substantial decline of about $260,000 in general municipal revenues and debt charges in the last 5 years. Taxation for schools shows steady increases in the years under study reflecting continual rising costs in education. Once again revenue generated from business taxes shows a continual decline.

Under government contributions, grants-in-lieu of taxes increased in 1976 and remained unchanged since then. Grants-in-lieu of property taxes are paid by the senior levels of government for institutional buildings such as government buildings and hospitals. The hospital is the only institutional building Carman has acquired within the past ten years.

Unconditional grants which are based on factors such as municipal tax levies and the number of households have fluctuated somewhat but overall have increased, reflecting the increases in tax levies and households.

TABLE 8.4

GENERAL REVENUE FUND, 1971 - 1986

	1971		1976		1981		1986	
	Amount ($000)	%	Amount ($000)	%	Amount ($000)	%	Amount ($000)	%
Taxation								
Schools	302.6		476.1		548.6		618.4	
Debt Charges	237.1		271.2		287.1		160.4	
General Municipal	357.8		445.1		541.9		408.6	
Special Levies	-		5.1		4.5		64.5	
Total	897.5	78.2	1197.5	73.4	1382.1	75.4	1251.9	77.9
Business Tax								
Total	37.7	3.3	26.6	1.6	26.6	1.5	16.7	1.0
Government Contributions								
Grants-in-lieu	23.2		66.8		66.5		66.7	
Unconditional Grants	47.5		81.7		74.3		86.6	
Conditional Grants	46.0		108.2		90.5		46.0	
Total	116.7	10.2	256.7	15.7	231.3	12.6	199.3	11.8
Other Revenues								
Total	94.8	8.3	151.4	9.3	192.6	10.5	128.4	9.3
Total Revenue	1146.7	100.0	1631.8	100.0	1832.2	100.0	1596.3	100.0

N.B. The amount uses constant dollars rather than actual dollars for comparison.

Source: Department of Municipal Affairs, Municipal Advisory and Financial Services Branch

Conditional grants reached a high of $108,000 in 1976 then dropped back to their 1971 levels of $46,000. These grants are formula based and fluctuate with spending on subsidized services. Overall, revenue from government contributions has declined in each of the study years since 1976.

Other revenues, made up from a number of minor sources such as licences, permits, fines, rents and tax penalties showed increases for the years 1971, 1976 and 1981 then dropped sharply in 1986.

The net result is that total revenues rose from 1971 to 1981 and then dropped about 13 percent in 1986.

8.4 Spending Patterns

The spending patterns of a community generally reflect which services are being provided, the relative importance of each service in terms of the proportion of the total budget spent on it, and the actual amounts spent. Carman's general operating expenditures are shown in Table 8.5. Once again a constant dollar approach has been used to compare expenditures over the time period 1971 to 1986.

Total expenditures increased in 1976 and 1981 then declined in 1986. Because the inflation factor has been removed, the rising expenditures indicate improving levels of municipal services and education. The drop in expenditures in 1986 reflects the general trend of economic restraint.

Not only is education the largest expenditure incurred, it has also increased its proportion of the total budget from 28% in 1971 to 39% in 1986.

The next largest expenditure is fiscal services which largely identifies the proportion of funding going to capital formation. Included are debt charges and transfers to reserves or reserve funds. Debt charges indicate the amount spend to amortize any debt outstanding on existing capital facilities such as sewer, water, street paving and equipment purchases. Transfers to reserves or reserve funds show the amounts being contributed to future capital works. The importance of these funds is that they serve to moderate future tax increases. The capital spending indicators help identify where major capital spending has occurred in the past

and will occur during the years covered by the five year capital program. Table 8.5 shows fiscal services accounting for 25 to 30 percent of expenditures in 1971, 1976 and 1981 and then dropping to 17 percent in 1986. This indicates the possibility that capital works projects are being delayed in an attempt to keep down tax increases.

Expenditures on general government, protection and transportation range around 10 percent of the budget each and constitute the next most significant services provided. General government reflects the administration costs and a large proportion of these expenditures go towards salaries.

The categories of environmental health, public health, welfare, environmental planning and economic development, and recreation are all smaller expenditures and together comprise between 10 and 15 percent of the total budget. Expenditures for recreation have declined steadily while the others all increased in 1986 reflecting the poor economy and a rising concern for public health and environmental issues.

8.5 Capital Debt

Municipalities are limited on the level of debt they can issue and carry. When capital expenditures are planned, it is necessary to determine if there is sufficient financial capacity to carry the debt. Carman's past and present debt levels are shown in Table 8.6. Between 1971 and 1986, sewer and water works projects were by far the major debt generating components as well as the only unmatured debt remaining in 1986. Table 8.6 also shows that during the same period, Carman has remained well under the guideline of 30% of equalized assessment for maximum debt load.

Prudent financial management requires that municipalities carry out long-term financial planning. Carman has prepared a five year capital expenditure program which reflects a phased program of infrastructure improvements in the form of utility extensions and street improvements. Machinery and office equipment expenditures will also be phased in over the five year period. The total expenditure is expected to be $876,500. Payment for these capital expenditures will be from operating funds $611,500, reserves $135,000, and debentures sales $130,000. It is notable that upgrading of the municipal services as recommended in the engineering report have not been included in the five year capital expenditure program.

TABLE 8.5

GENERAL OPERATING EXPENDITURES, 1971 - 1986

	1971		1976		1981		1986	
	Amount ($000)	%	Amount ($000)	%	Amount ($000)	%	Amount ($000)	%
General Government	135.8	12	152.0	10	147.6	8	174.5	10
Protection	106.8	9	129.5	8	125.5	7	160.3	10
Transportation	126.9	11	122.1	8	180.8	10	208.5	13
Environmental Health	36.7	3	42.4	3	32.1	2	60.1	4
Public Health	16.4	2	8.6	1	6.6	1	10.5	1
Welfare	14.8	1	0.8	0	4.1	0	19.0	1
Environmental Planning and Economic Development	10.5	1	11.3	1	8.5	1	17.4	1
Recreation	88.3	8	106.3	7	99.0	6	68.7	4
Education	312.4	28	485.3	32	575.6	33	653.2	39
Fiscal Services	279.1	25	466.0	30	567.1	32	275.9	17
Total Expenditures	1127.7	100	1524.3	100	1746.9	100	1648.1	100

Source: Department of Municipal Affairs, Municipal Advisory and Financial Services Branch

TABLE 8.6

CAPITAL DEBT, 1971 - 1986

	Amount ($000)			
	1971	1976	1981	1986
Administration	-	-	-	-
Protection	-	-	-	-
Transportation	50	253	152	-
Water & Sewer	245	303	556	995
Social Services	9	-	-	-
Recreation	35	18	-	-
Total Unmatured Debt	339	574	708	995
Deferred Liabilities	-	-	-	-
Total Capital Debt	339	574	708	995
30% of Equalized Assessment	1,099	1,330	2,057	2,242
Debt Ratio	9.3%	12.9%	10.3%	13.3%

Source: Department of Municipal Affairs, Municipal Advisory and Financial Services Branch

The cost estimates for the water, sewer, and storm drainage improvements were over $3,500,000, well in excess of the current projected expenditures.

It is the debenture sales that form the basis of Carman's long-term debt. This future debt is combined with the existing debt and shown in Table 8.7 as debt projections. The estimated equalized assessment, unmatured debentures, and ratio of debt to assessment are projected from 1988 to 1992. Carman's debt ratio is estimated to be 13 percent in 1988 and gradually reduces to 10 percent in 1992. These ratios are in line with past debt ratios shown in Table 8.6. While these debt ratios are well below the 30 percent guideline, leaving Carman with the capacity to increase its debt load substantially, any further increases would be borne directly by rate payers. Alternatively, if the assessment base was to increase beyond its present growth rate of 1.35% per year, it would provide extra funds without increasing mill rates. However, if Carman proceeds with the recommended improvements to the sewer and water systems the debt ratio could well exceed the 30 percent level.

TABLE 8.7

DEBT PROJECTIONS, 1988 - 1992

Year	Equalized Assessment	Debenture Debt	Debt to Assessment Ratio
1988	$7,736,600	$1,035,131	13.4%
1989	$7,840,580	987,562	12.6%
1990	$7,945,960	934,444	11.8%
1991	$8,052,750	876,266	10.9%
1992	$8,160,980	811,459	9.9%

Note: Growth of equalized assessment was projected at 1.35% per year based on the actual growth between 1982-1987.

Source: Department of Municipal Affairs, Municipal Advisory and Financial Services Branch

8.6 Summary and Concerns

- From 1971 to 1986 Carman's assessment base has shown very little growth. If new construction is deducted, assessment actually declined.

- Over this same period taxation rates for education have steadily increased while the general municipal rates have declined from the 1977 level.

- Generally, Carman has lower assessment levels than other communities of comparable size.

- Carman's residential assessment is higher and its commerical/ industrial assessment is lower than other communities of comparative size indicating residential tax payers must bear a greater proportion of municipal costs.

- Revenues rose from 1971 to 1981 and dropped sharply in 1986 due to a drop in general municipal revenues and government contributions.

- Government contributions are a major factor affecting revenue proportions.

- Revenue from business tax has declined steadily over the past fifteen years.

- Expenditures rose from 1971 to 1981 indicating improving levels of education and municipal services, but dropped in 1986 reflecting economic restraint.

- Education is taking an increasing proportion of the budget, 28% in 1971 to 39% in 1986.

- Between 1971 and 1986 sewer and water projects were the major debt generating components.

- Carman's projected debt ratio is well within acceptable limits indicating substantial future borrowing capability.

APPENDIX

PRIORIZED LIST OF CARMAN PLANNING ISSUES

1. Identify an industrial park
2. Development of highway property
3. Commercial/Residential/Multi-Family/Senior Citizens Housing pattern
4. Establish basic subdivision standards for residential and commercial development
5. Planning and regulations for the trailer park
6. Resolving future development of floodplain
7. Development of railway property
8. Problems with hazardous goods in residential areas
9. Providing services (eg. water) to outside residents/communities
10. Plan for extending municipal services inside Town boundaries
11. Location and type of commercial signs
12. Riverbank improvement/clean-up
13. Consistent variation policy
14. Establish truck routes
15. Establish firm recreation areas

OTHER CARMAN PLANNING ISSUES

Providing parking in business areas
Green areas policy
Industrial development at old sewage lagoon
Create a larger lot/large house residential zone
Better municipal directional signs
Concern about the high price of industrial land
Bicycle paths
Potential educational locations
Relocation of Town water plant
Street lighting standards
King's Park improvement

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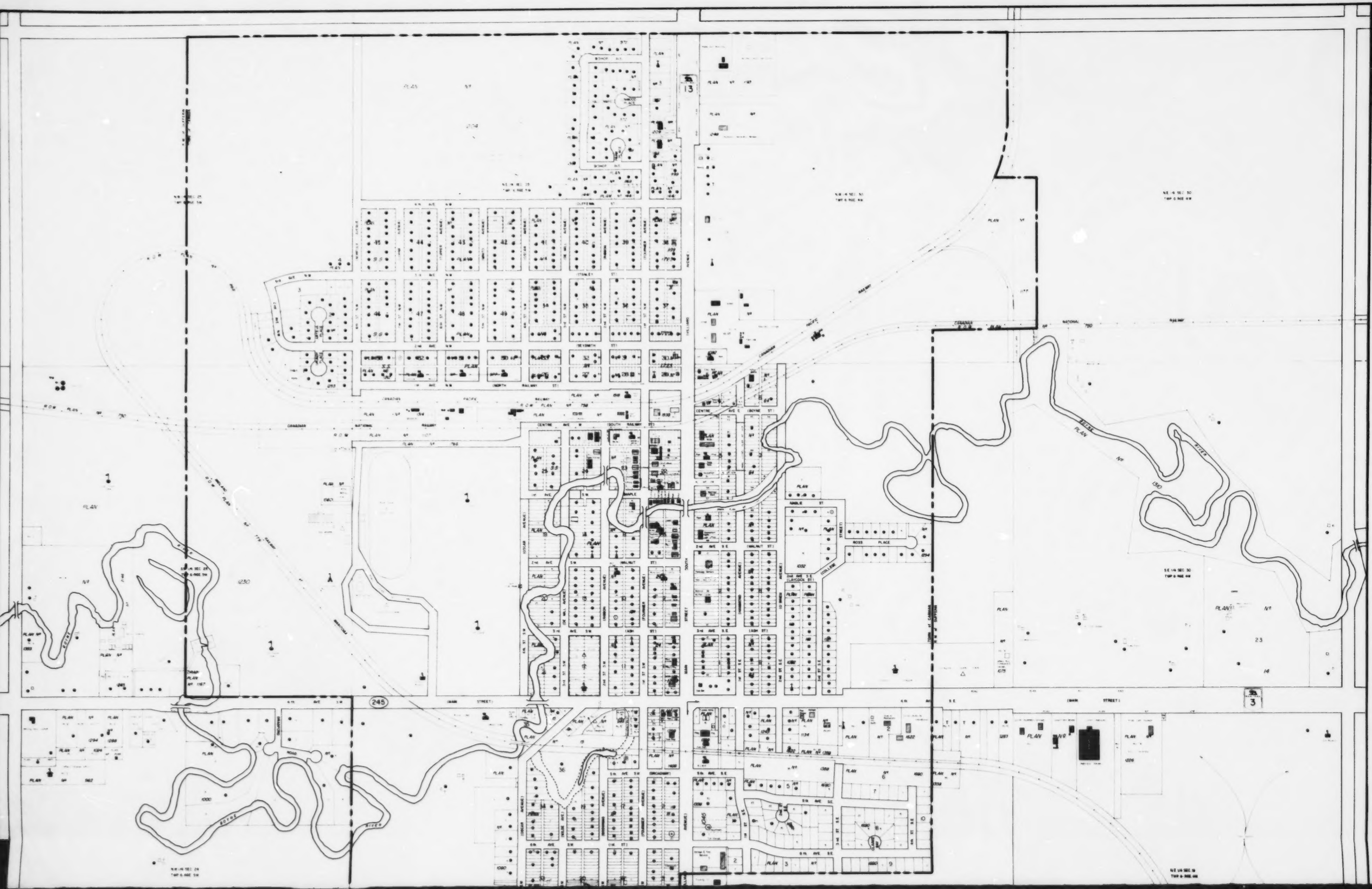

TOWN OF CARMAN

BACKGROUND STUDY TO THE DEVELOPMENT PLAN

EXISTING LAND USE

Legend: Note: Land Use Information from field survey - Mar. 1987

- Residential (v- Vacant)
- Duplex or Side - by - Side
- Mobile Home
- Multi - Family
- Commercial
- Commercial / Residence
- Residence / Commercial
- Church
- Funeral Home
- Cemetery
- Public Building
- School
- Industrial
- Industrial / Residence
- Information Booth
- Park or Recreation Area
- Camping Area
- Museum
- Airport
- Farm or Accessory Building
- Golf Course
- Town Limits

Map No.5

200 100 0 100 200
Scale 10 Meters

METRIC 1 : 7500

Manitoba
Municipal Affairs
Municipal Planning

DATE MAR. 1988	DRAWING NO. 409 - 70 - 104
REVISED	DRAWING NO.